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Atlas of New York State Ferns

RICHARD S. MITCHELL

New York State Museum

Contributions to a Flora of New York State, Checklist II
Richard S. Mitchell, Editor

1984

Bulletin No. 456

New York State Museum

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Albany, New York 12230

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State Botanist
RICHARD S. MITCHELL

ACKNOWLEDGMENTS

I wish to thank Dr. Warren H. Wagner Jr. for the excellent work he and his colleagues did in identifying and annotating many thousands of fern specimens at New York State's major herbaria. Dr. Florence S. Wagner and Joseph M. Beitel were his coworkers, and for their expertise and the long hours I offer sincere thanks. My thanks also go to Dr. James C. Parks and Dr. Donald Farrar for the new information on Appalachian gametophytes which they supplied. The recognition of *Cystopteris tenuis* is based on information supplied by Robert C. Moran, whose work on that species is now in press. Special thanks to Kathryn M. Conway for the cover art.

The New York State Flora Committee

The steering council of the New York State Flora committee met for the first time on January 19, 1976, and established as its goals the promotion of study of the state's plant resources and the publication of this series of Contributions to a Flora of New York State.

Members of the council at the time of this publication are:

Richard S. Mitchell, State Botanist, New York State Museum (Vascular Plants)
Charles J. Sheviak, Curator of Botany, New York State Museum (Vascular Plants)
Norton G. Miller, Chief Scientist, Biological Survey, New York State Museum (Bryophytes)
Clark T. Rogerson, The New York Botanical Garden (Fungi)
George J. Schumacher, Biology Department, SUNY, Binghamton (Algae)

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INTRODUCTION

THIS ATLAS is a step toward the publication of complete floristic treatment of the ferns of New York State. It is presented at this time to help assess the current state of knowledge on the distribution of ferns in New York with the hope that botanists will add to our collections and distribution records. In this way the future flora-contribution on ferns may be enhanced, making it more thorough and authoritative.

In the spring of 1981 the University of Michigan team of Warren H. Wagner Jr., Florence S. Wagner and Joseph M. Beitel visited New York State at the request of the State Botanist's Office. They studied and annotated New York fern specimens at the New York Botanical Garden (NY), New York State Museum (NYS), Brooklyn Botanical Garden (BKL) and Cornell University (CU, BH). Extensive label-data were collected and provided to the author who transferred the information to the master-file of plant distributions in Albany. The taxonomic treatment used here is based on the current thinking of Warren Wagner, and corresponds almost totally to 1981 annotations in the major New York herbaria.

Dot maps in this atlas represent only specimens seen and annotated by the Michigan pteridologists. Well-known taxonomic difficulties in certain fern groups make unvouchered observations and literature reports doubtful, so these are not included, even though their sites may be recorded on distribution maps in Albany. Additions to distribution records are welcomed, but they should be accompanied by specimens or information on the location of plant materials for verification.

The synonymy presented here applies only to taxa reported from New York State. A complete synonymy compiled by the author is available upon request, but it is not included here due to its length and to the large number of obscure synonyms included. Synonyms in this atlas are taken from works in current and common use in northeastern North America: Fernald (1950), Gleason (1952), Gleason and Cronquist (1952) and Kartesz and Kartesz (1980).

New distribution records or additions to our fern flora should be addressed to:

Office of the State Botanist
New York State Biological Survey
3132 Cultural Education Center
Albany, NY 12230

RARITY CODES: (Letters refer to New York rarity, numbers to protection priorities)

E- endangered [species in danger of extirpation from New York State]

T- threatened [species threatened with becoming endangered in N.Y.S.]

X- extirpated [species probably extirpated from N.Y.S.]

1 = the highest recommended priority for protection, based on overall rarity and endangerment in the United States

2 = the second highest priority, based on the above criteria

3 = the third priority list: plants known to have occurred in N.Y.S. five (rarely eight) times or fewer; these should be preserved if possible, especially where they occur together.

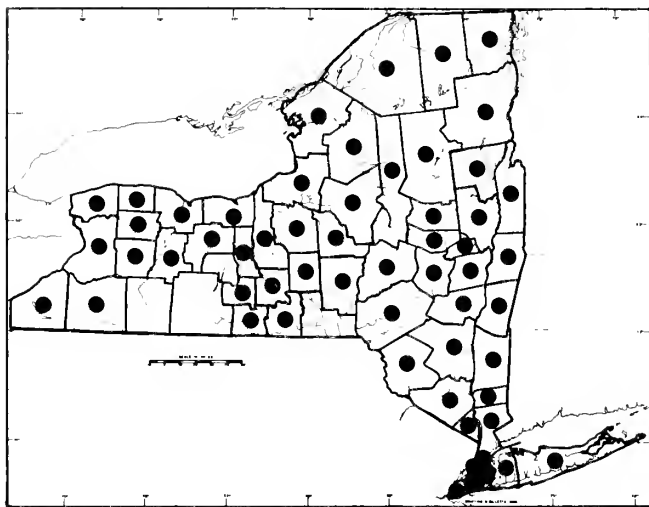
Examples of Rarity Codes:

RARE: E-2 = A species endangered with extirpation in N.Y.S., relatively rare in the U.S. and recommended for 2nd priority protection

RARE: T-1 = A species threatened with endangerment in N.Y.S., very rare in the U.S. and recommended for 1st priority protection

(EXT? X-3) = A species probably extirpated in N.Y.S., not rare in the U.S. and recommended (3rd priority) for protection when found in combination with other rare species

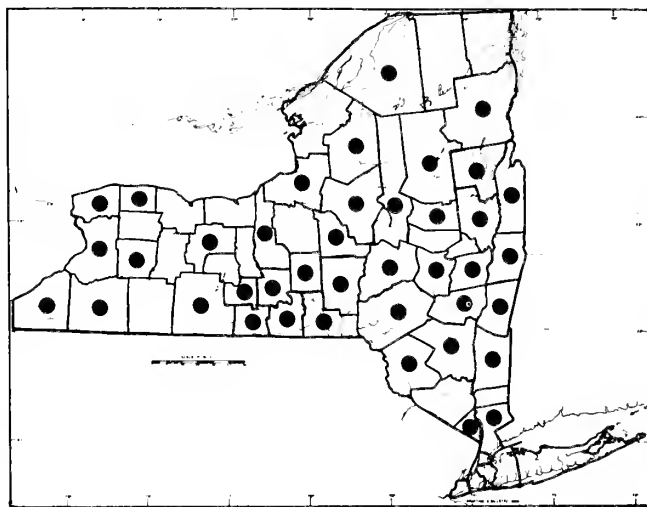
OPHIOGLOSSACEAE (ADDER'S-TONGUE FAMILY)



Botrychium dissectum Spreng.

CUT-LEAVED GRAPE FERN

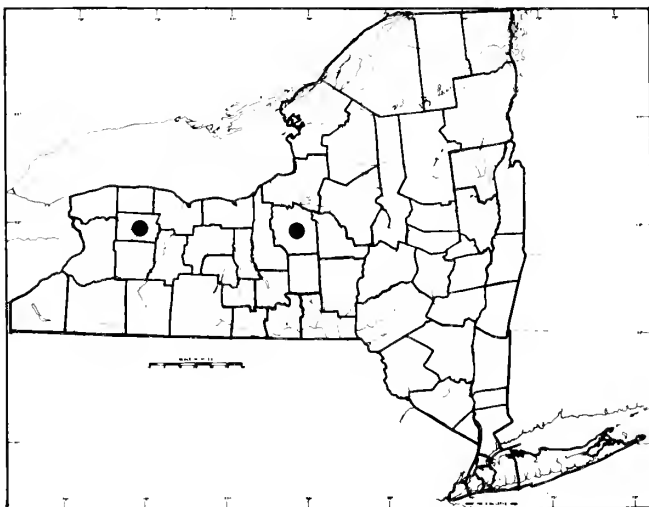
[*B. dissectum* var. *obliquum* (Muhl. ex Willd.) Clute]



Botrychium lanceolatum (Gmel.) Ångstr.
(not Rupr.)

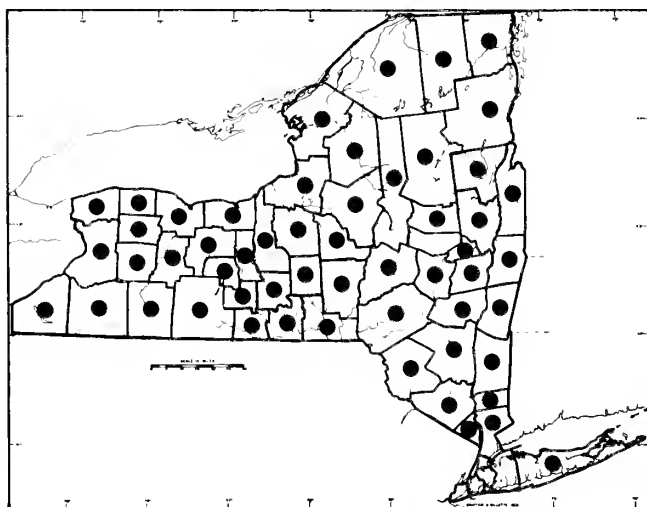
LANCE-LEAVED GRAPE FERN

var. *angustisegmentum* Pease & Moore



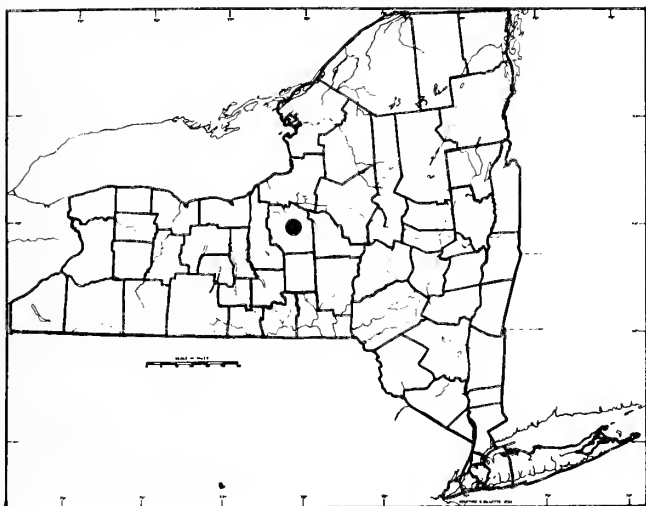
Botrychium lunaria (L.) Sw.

MOONWORT (RARE: E-3)



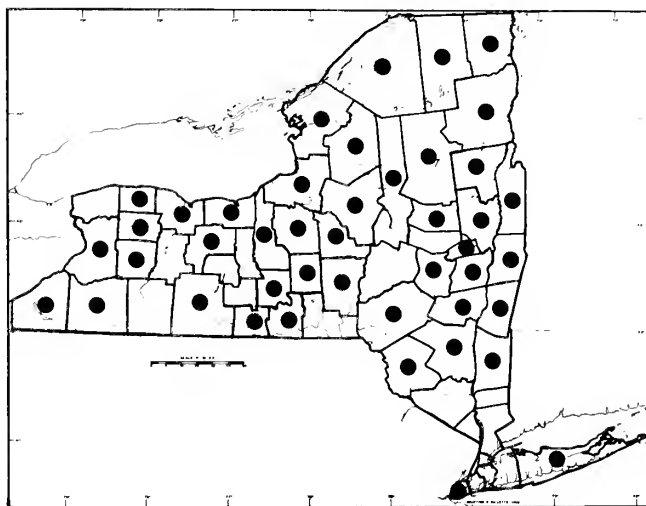
Botrychium matricariifolium (A. Br.
ex Döll) A. Br. ex Koch

MATRICARY GRAPE FERN



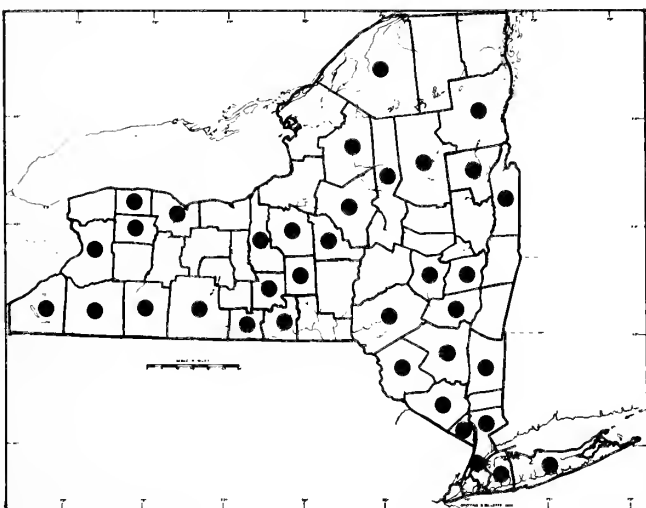
***Botrychium minganense* Vict.**

MINGAN MOONWORT (RARE: E-2)
[*B. lunaria* var. *minganense* (Vict.) Dole



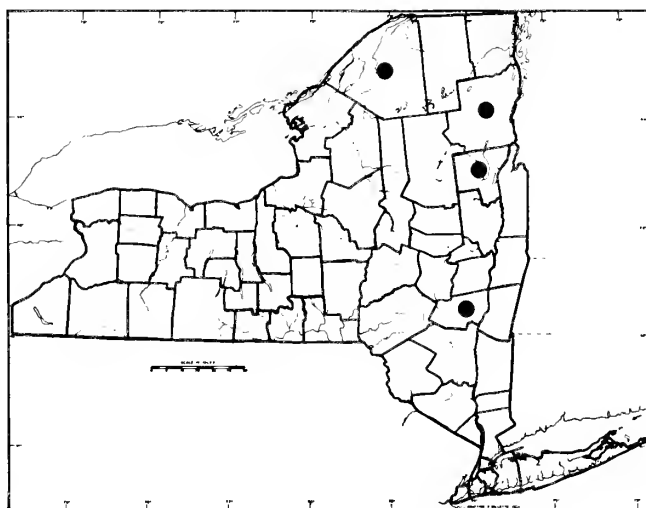
***Botrychium multifidum* (Gmel.) Rupr.**

LEATHERY GRAPE FERN
[*B. multifidum* var. *intermedium*
(D. Eat.) Farw.]



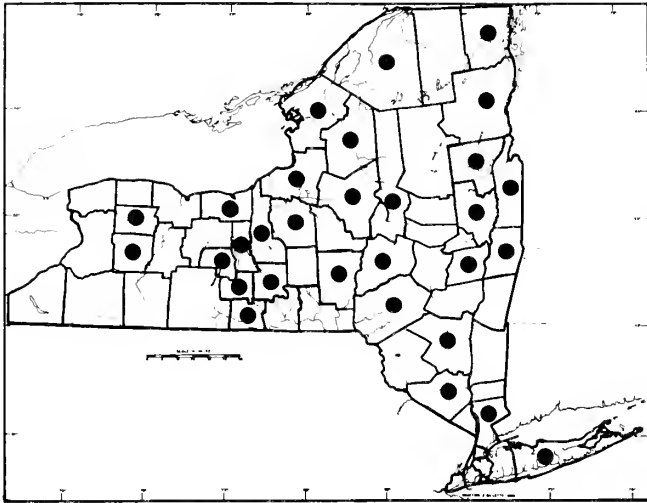
***Botrychium oneidense* (Gilb.) House**

BLUNT-LOBED OR ONEIDA GRAPE FERN
[*B. multifidum* var. *oneidense* (Gilb.)
Farw.]



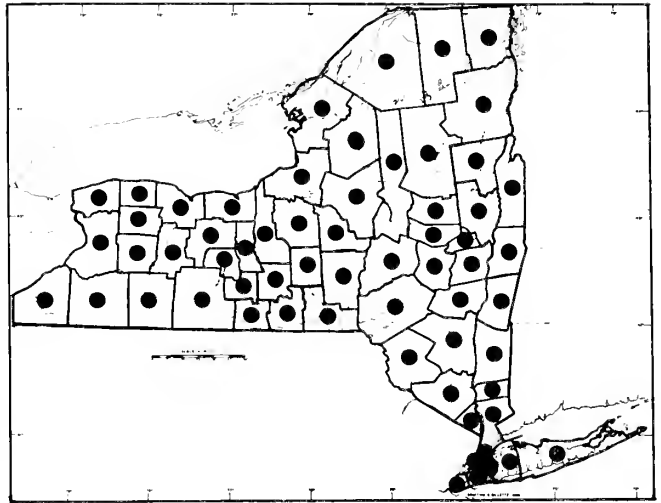
***Botrychium rugulosum* W. Wagner**

RUGULOSE GRAPE FERN (RARE: E-1)
[*B. ternatum* of recent American
authors, not (Thunb.) Sw.]



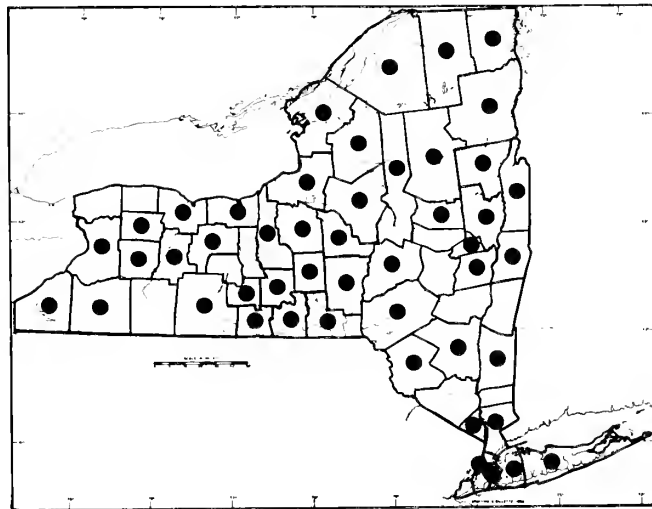
Botrychium simplex Hitchc.

LEAST MOONWORT OR GRAPE FERN
[*B. simplex* var. *tenebrosum* (A. Eat.)
Clausen]



Botrychium virginianum (L.) Sw.

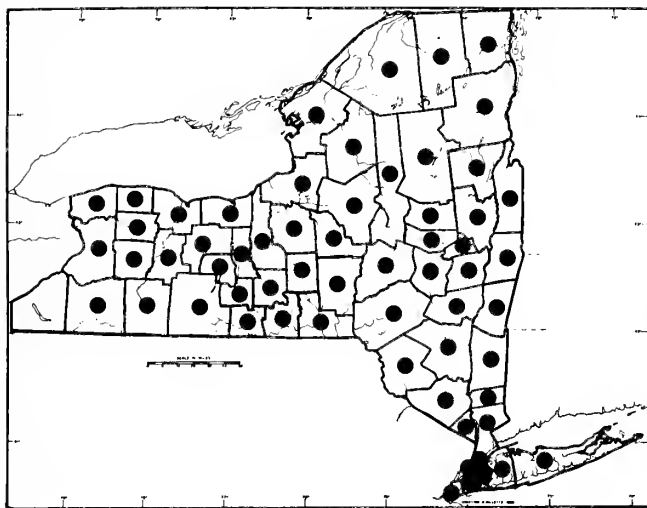
RATTLESNAKE FERN



Ophioglossum vulgatum L.

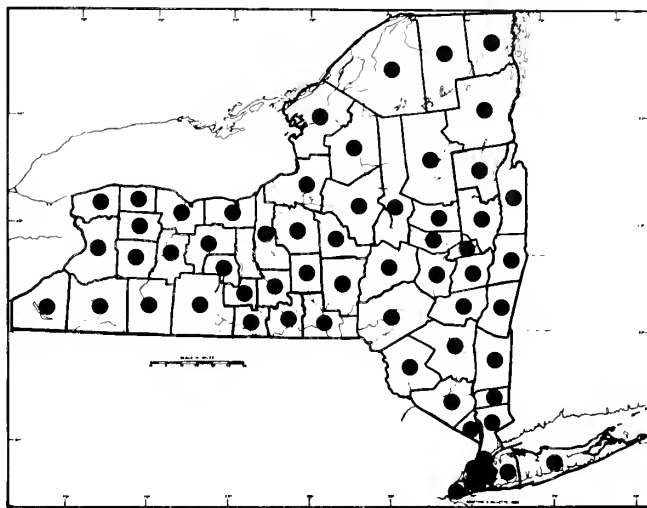
ADDER'S-TONGUE
(*O. vulgatum* varieties)

OSMUNDACEAE (FLOWERING-FERN FAMILY)



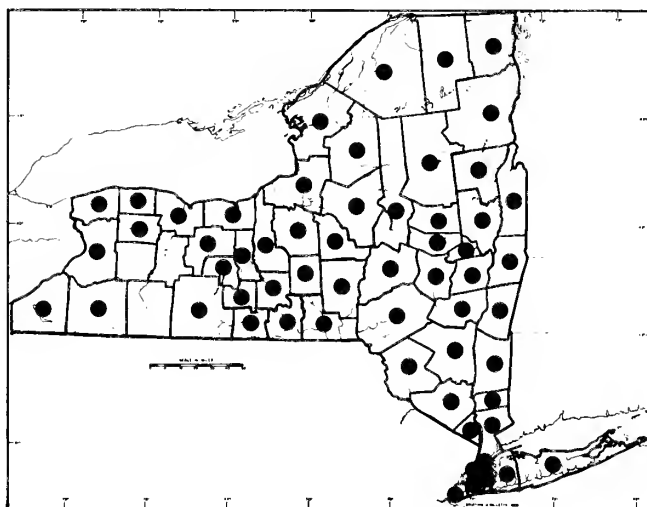
Osmunda cinnamomea L.

CINNAMON FERN



Osmunda claytoniana L.

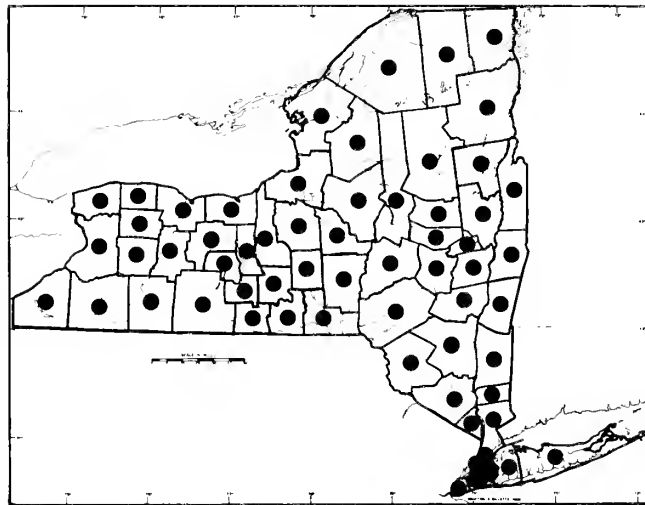
INTERRUPTED FERN



Osmunda regalis L.

ROYAL FERN, FLOWERING FERN
var. *spectabilis* (Willd.) A. Gray

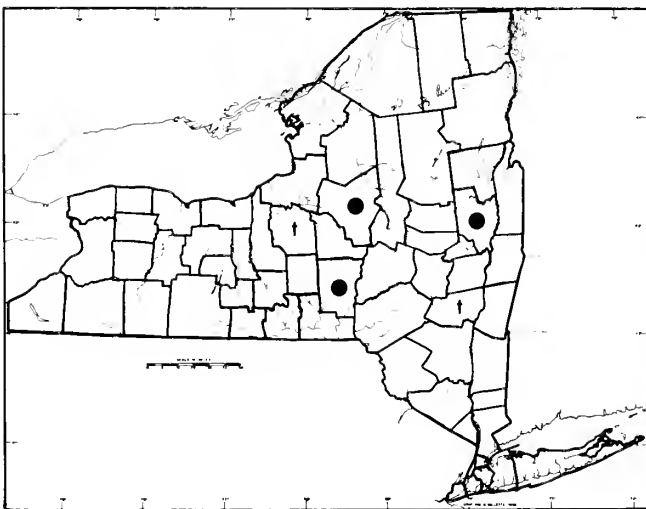
POLYPODIACEAE (POLYPODY FAMILY)



Polypodium virginianum L.

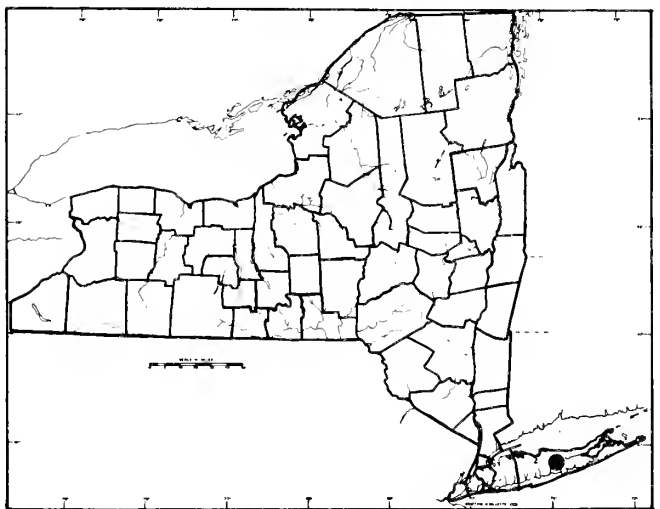
ROCK POLYPODY, COMMON POLYPODY
[*P. vulgare* var. *virginianum* (L.) Eat.]

SCHIZAEACEAE (CURLYGRASS FAMILY)



Lygodium palmatum (Bernh. ex Schrad.) Sw.

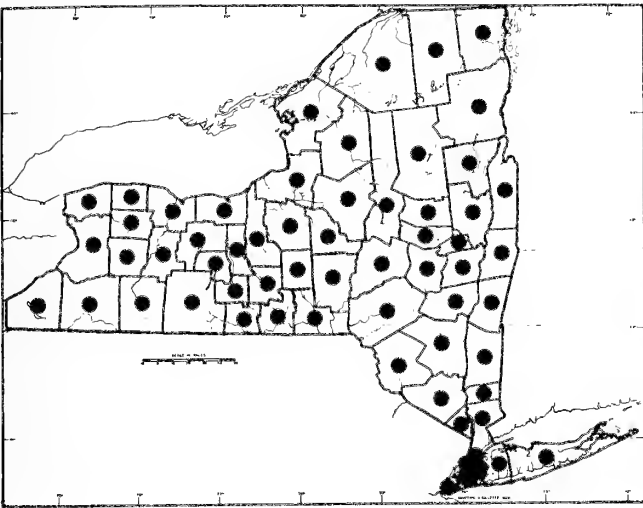
CLIMBING FERN (RARE: E-2)



Schizaea pusilla Pursh

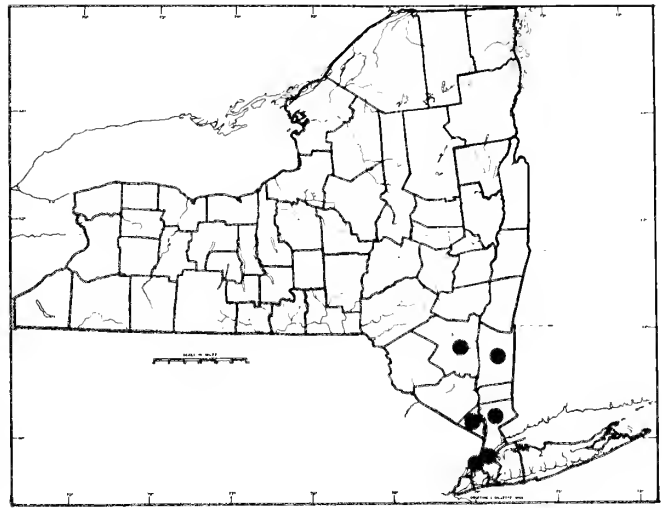
CURLYGRASS, CURLYGRASS FERN
(RARE: E-1)

ADIANTACEAE (MAIDENHAIR FAMILY)



Adiantum pedatum L.

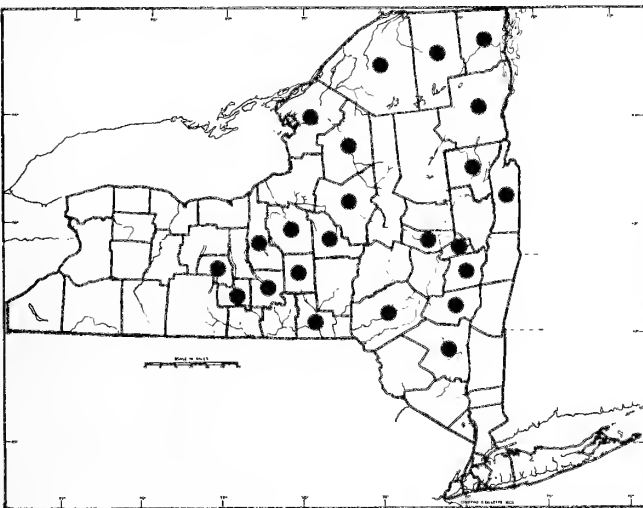
MAIDENHAIR FERN



+ *Cheilanthes lanosa* (Michx.) D. Eat.

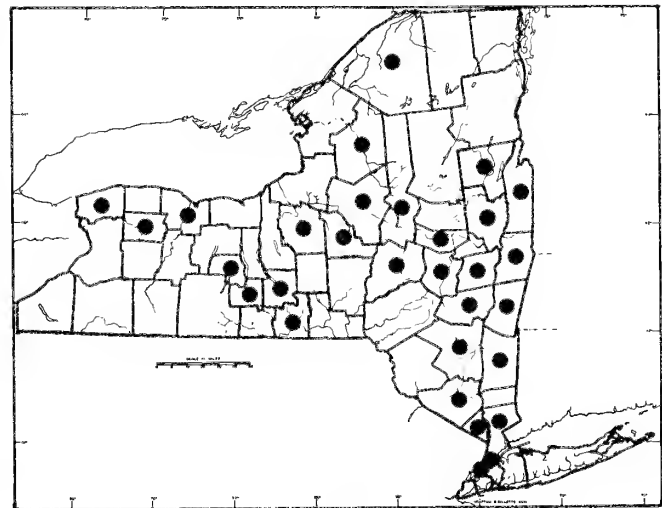
WOOLLY LIP-FERN, HAIRY LIP-FERN
(EXT? X-3)

[*C. tomentosa* of NY reports, not
Link; *C. vestita* (Spreng.) Sw.]



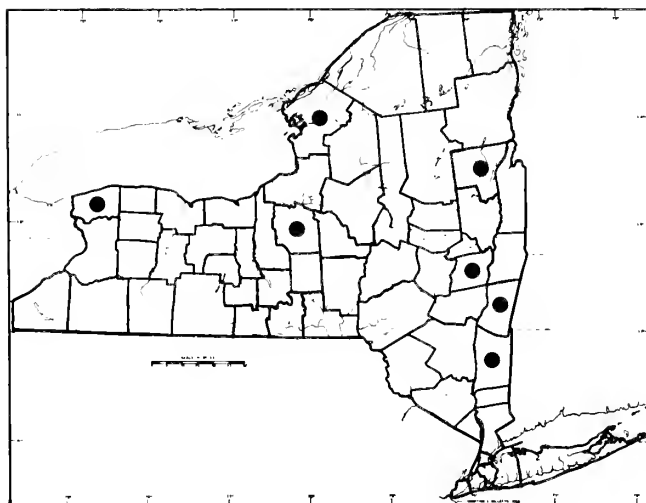
Cryptogramma stelleri (Gmel.) Prantl

SLENDER CLIFF BRAKE



Pellaea atropurpurea (L.) Link

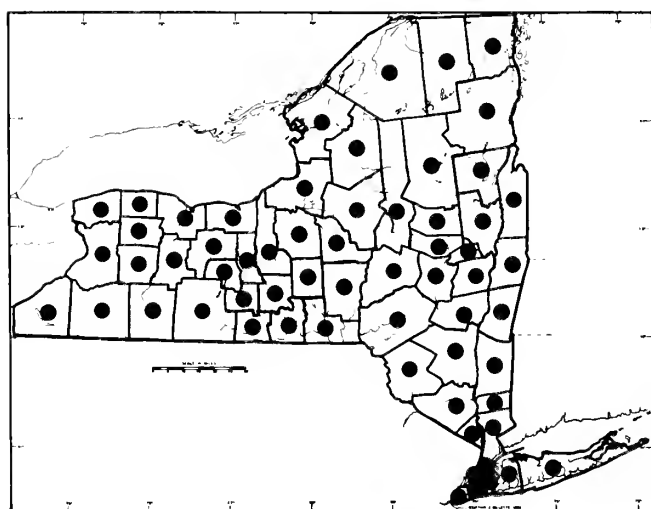
PURPLE CLIFF BRAKE



Pellaea glabella Mett. ex Kuhn

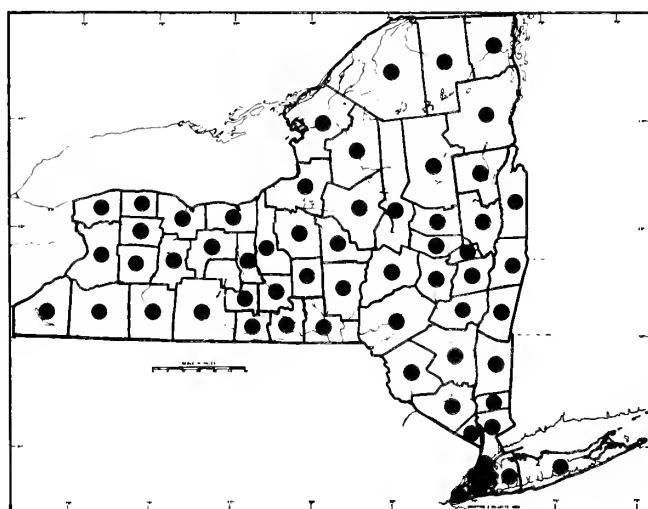
SMOOTH CLIFF BRAKE (RARE: T-3)
(*P. atropurpurea* var. *bushii* Mackz.)

CYATHEACEAE (TREE FERN FAMILY)



Dennstaedtia punctilobula (Michx.) Moore

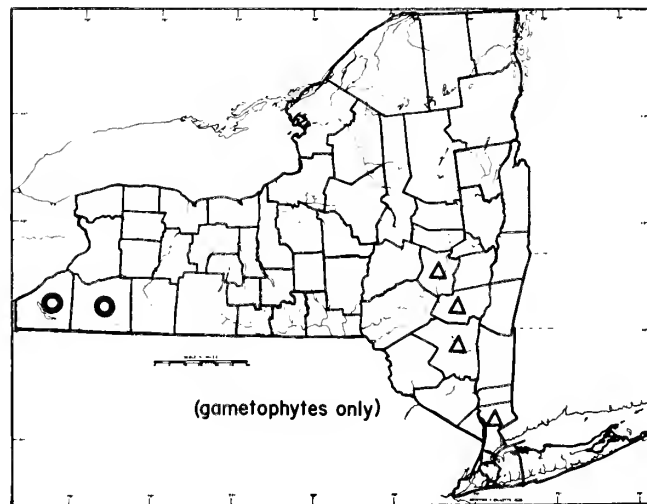
HAY-SCENTED FERN



Pteridium aquilinum (L.) Kuhn

BRACKEN, BRAKE-FERN, BRAKE
(*P. aquilinum* varieties)

VITTARIACEAE (GRASS-FERN FAMILY)



● *Vittaria* sp. (gametophytes only)

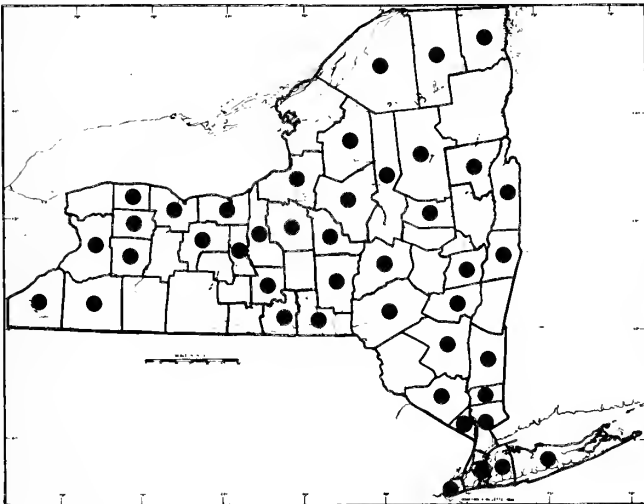
GRASS FERN (RARE)

HYMENOPHYLLACEAE (FILMY FERN FAMILY)

Δ *Trichomanes* sp. (gametophytes only)

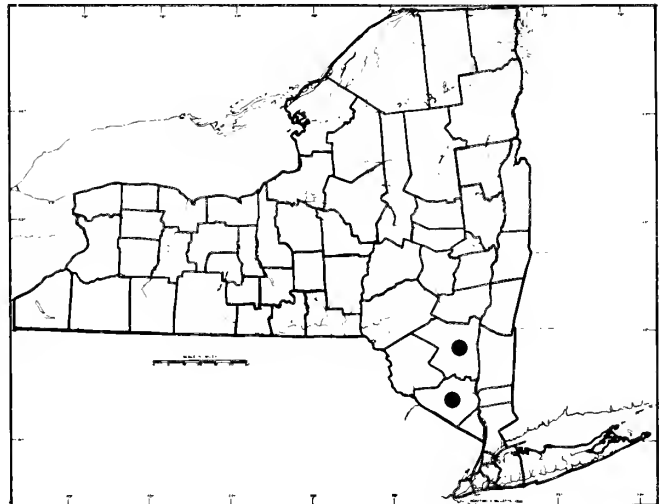
FILMY FERN

ASPLENIACEAE (SPLEENWORT FAMILY)



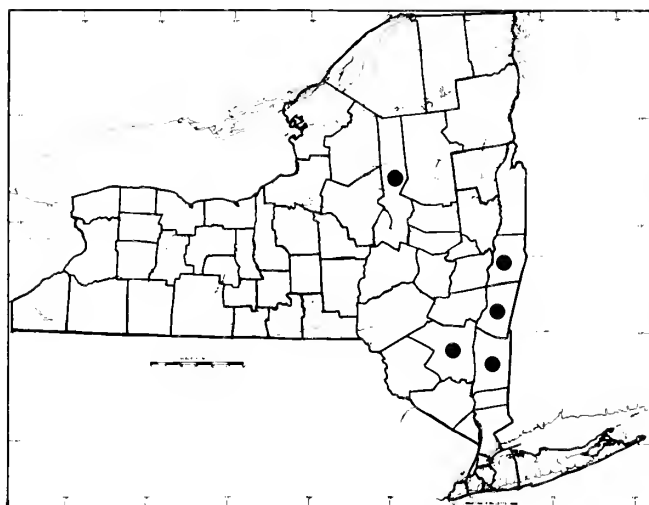
Anchistea virginica (L.) Presl

VIRGINIA CHAIN FERN
[*Woodwardia virginica* (L.) Sm.]



Asplenium bradleyi D. Eat.

BRADLEY'S SPLEENWORT (RARE)

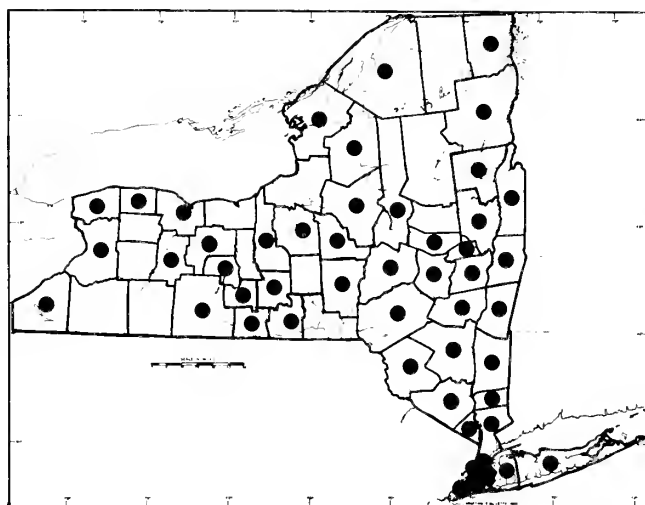


Asplenium montanum Willd.

MOUNTAIN SPLEENWORT (RARE: E-3)

+ *Asplenium pinnatifidum* Nutt.

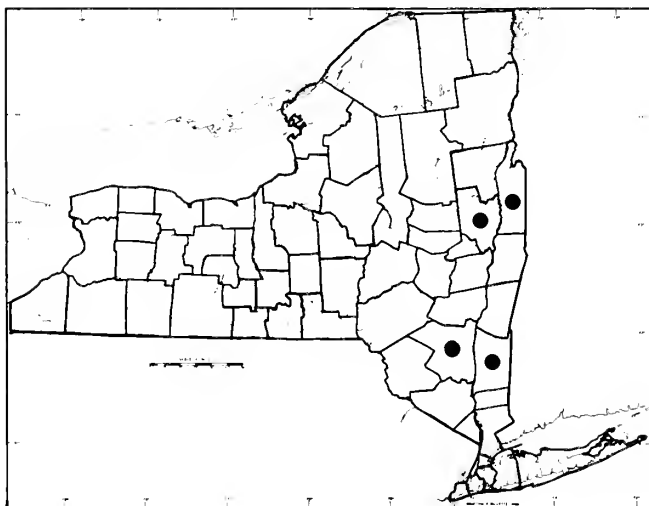
PINNATIFID SPLEENWORT
(REPORT ONLY)



Asplenium platyneuron (L.) BSP.
(not Oakes ex D. Eat.)

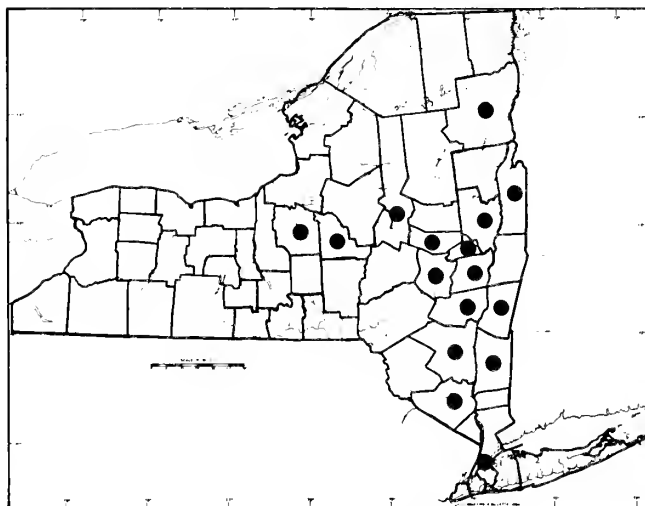
EBONY SPLEENWORT

[*A. platyneuron* var. *incisum* (Howe ex Peck) Robinson]



Asplenium platyneuron x *Camptosorus rhizophyllum* = x *Asplenosorus ebenoides* (Scott) Wherry

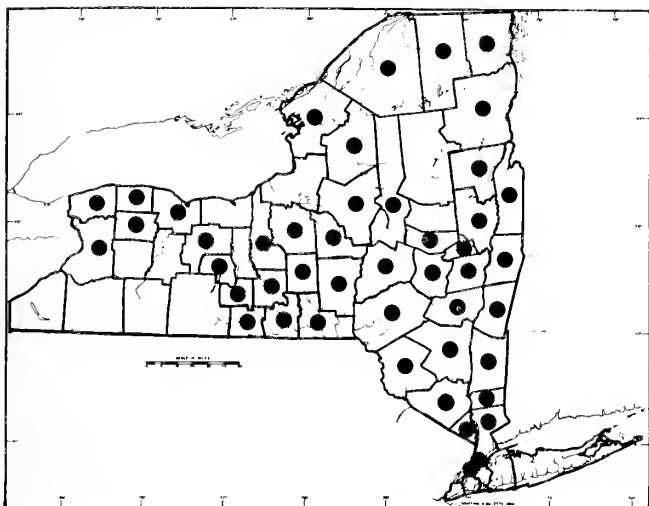
WALKING SPLEENWORT (RARE)
(*Asplenium* x *ebenoides* Scott)



Asplenium ruta-muraria L.

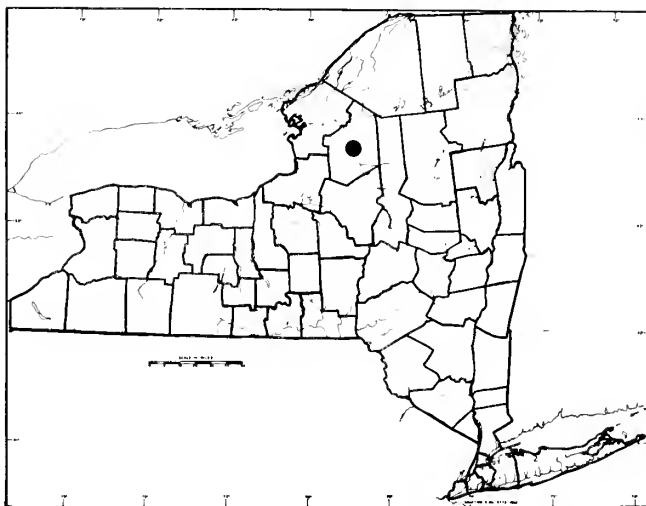
WALL-RUE SPLEENWORT

[*A. cryptolepis* Fern.; *A. ruta-muraria* var. *cryptolepis* (Fern.) Wherry]



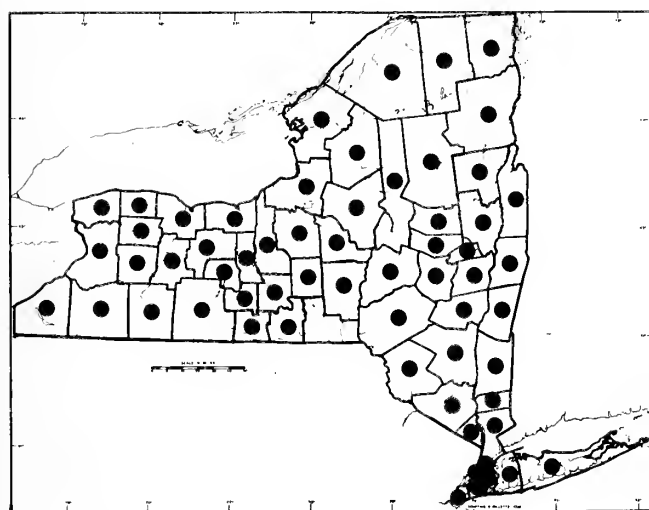
Asplenium trichomanes L.

MAIDENHAIR SPLEENWORT



Asplenium viride Huds.

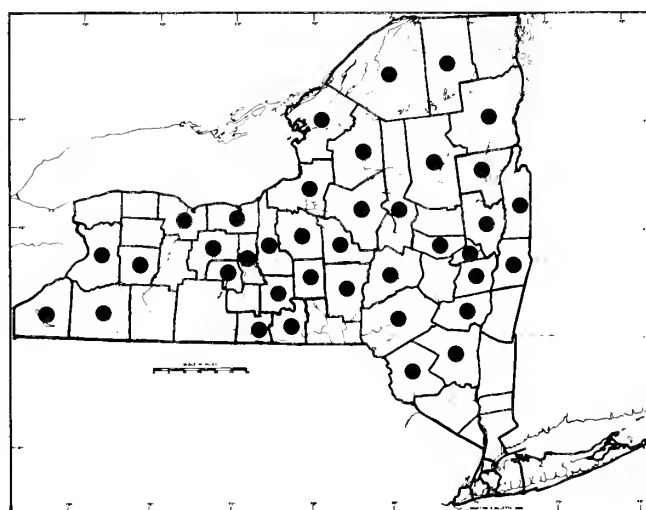
GREEN SPLEENWORT (RARE: T-3)



Athyrium asplenoides (Michx.) Desv.
(not Eat.)

LADY FERN

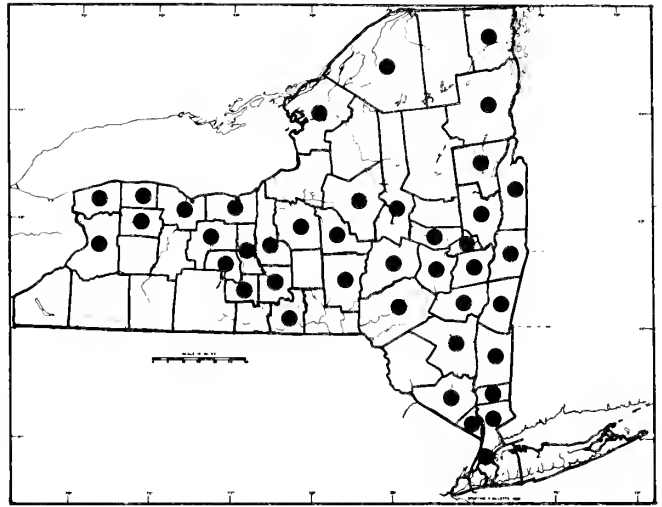
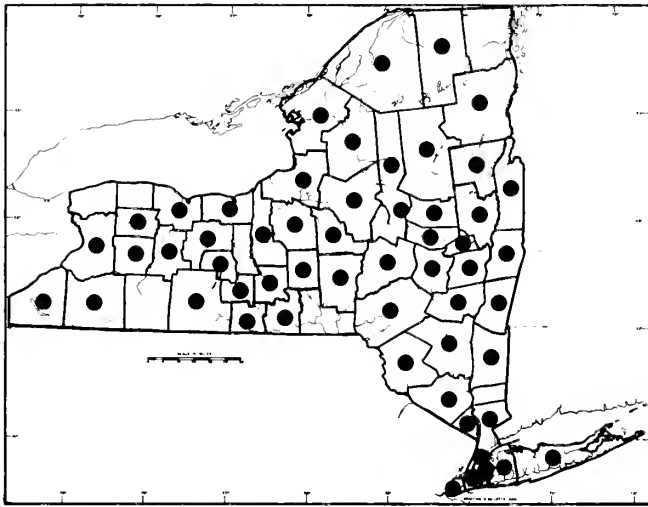
[*A. angustum* (Willd.) Presl; *A. filix-femina* of authors, not (L.) Roth]



Athyrium pycnocarpon (Spreng.) Tidestr.

GLADE FERN

[*Diplazium pycnocarpon* (Spreng.) Broun]

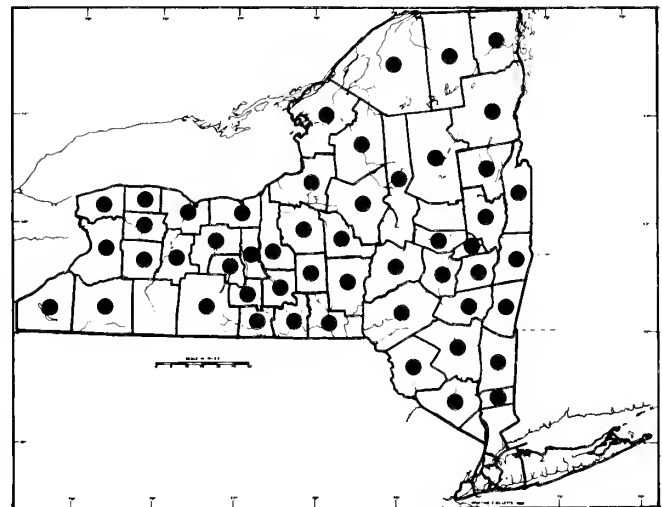
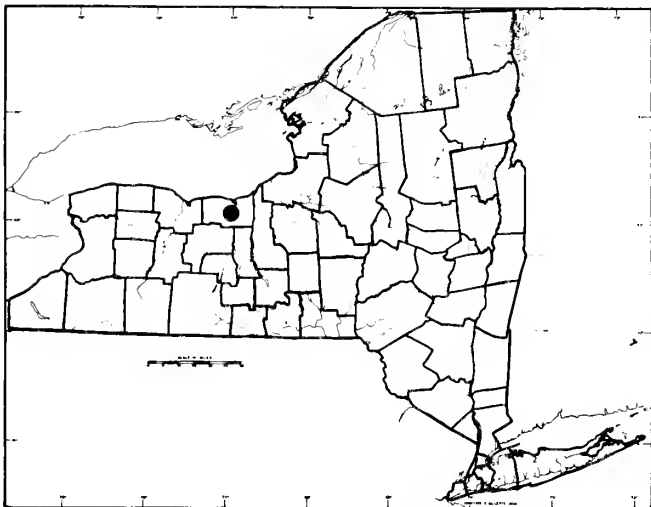


Athyrium thelypteroides (Michx.) Desv.

Camptosorus rhizophyllus (L.) Link

SILVERY SPLEENWORT
[*Deparia acrostichoides* (Sw.) Kato]

WALKING FERN
(*Asplenium rhizophyllum* L.)

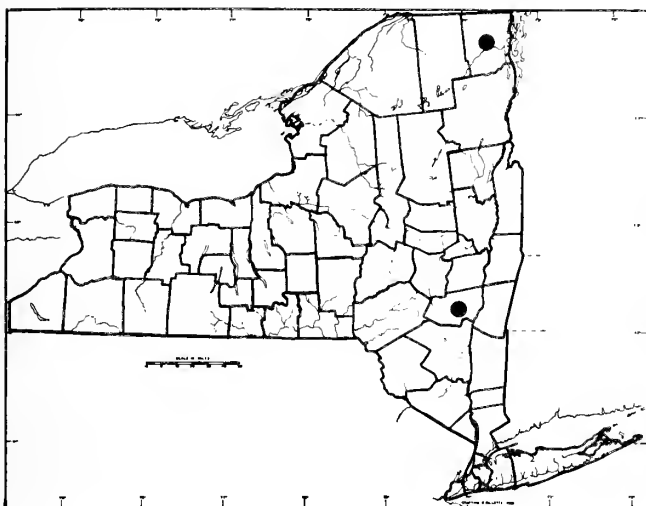


**Cyrtomium falcatum* (L. f.) Presl

Cystopteris bulbifera (L.) Bernh.

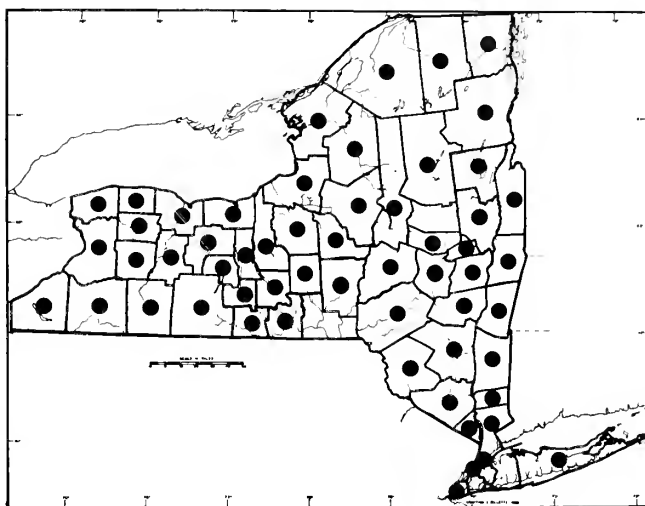
JAPANESE HOLLY FERN
(RARE ESCAPE)

BULBLET FERN



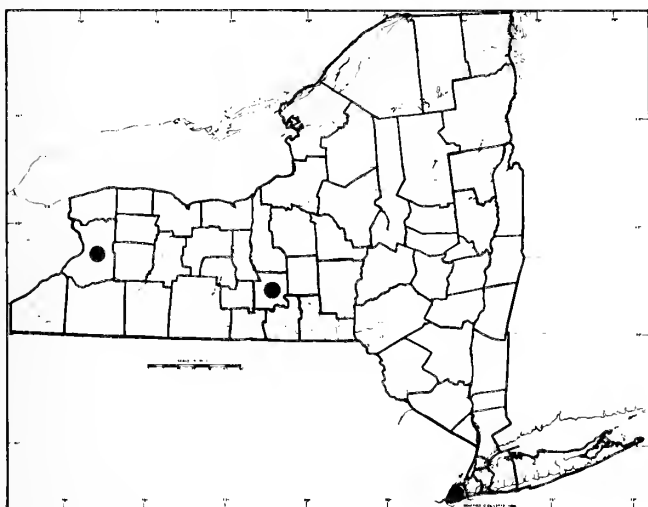
Cystopteris bulbifera x *fragilis*

FRAGILE FERN (RARE)
(*C. x tennesseensis* of NY reports)



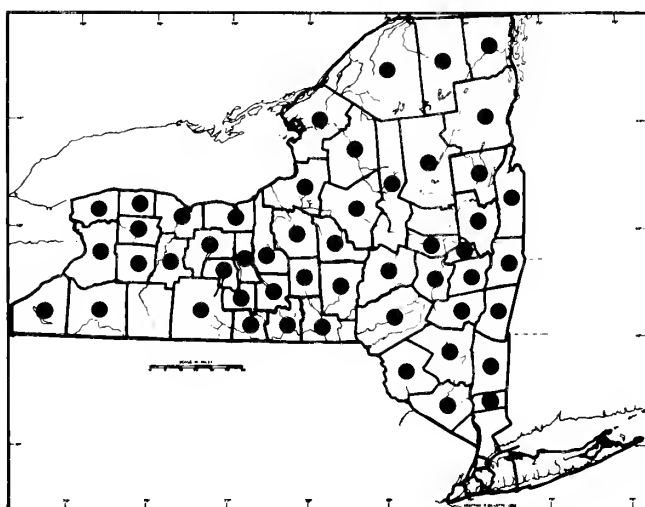
Cystopteris fragilis (L.) Bernh.

COMMON FRAGILE FERN



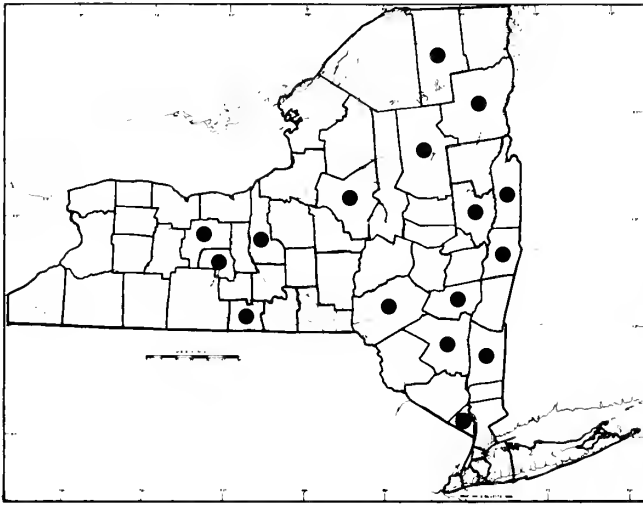
Cystopteris protrusa (Weath.) Blasd.

LOWLAND FRAGILE FERN (RARE: T-3)
(*C. fragilis* var. *protrusa* Weath.)



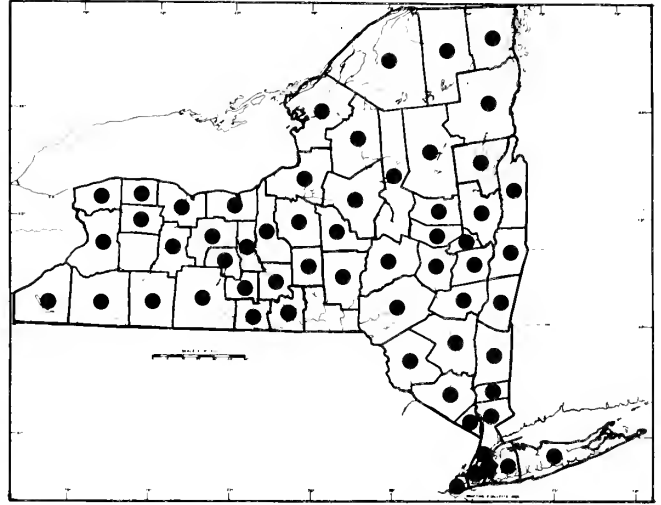
Cystopteris tenuis (Michx.) Desv.

FRAGILE FERN
(*C. fragilis* var. *mackayi* Laws.)



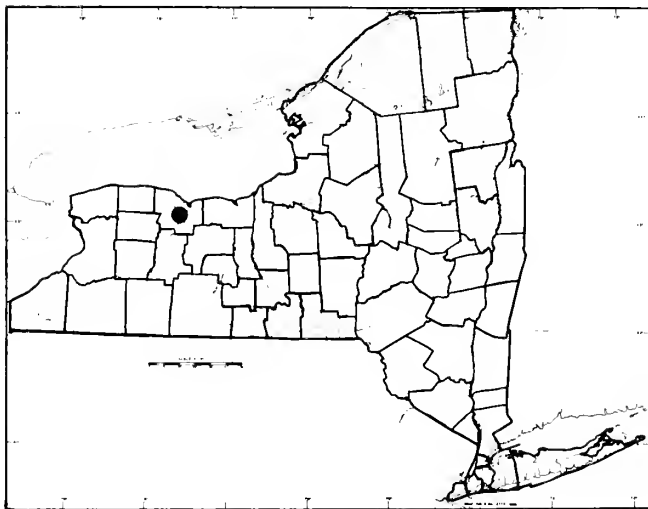
Dryopteris campyloptera (Kunze)
Clarkson

MOUNTAIN WOOD FERN
[*D. austriaca* (Jacq.) Woyner ex Schinz
& Thellung; *D. dilatata* var. *americana*
(Fisch. ex Kunze) Benedict; *D. spinulosa*
var. *americana* (Fisch. ex Kunze) Fern.]



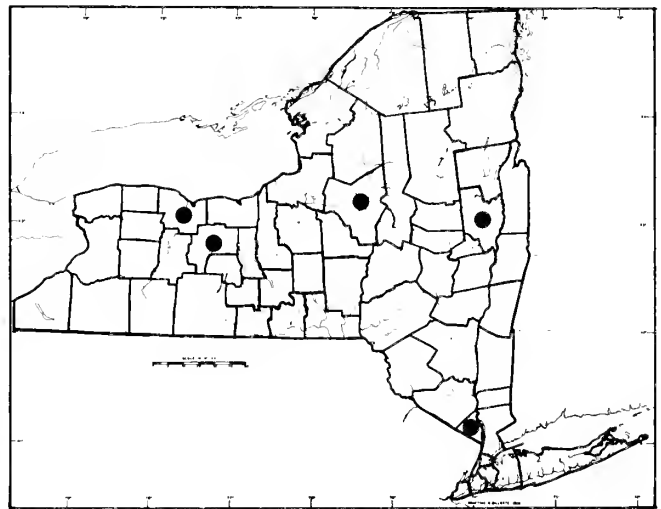
Dryopteris carthusiana (Vill.) Fuchs

SPINULOSE WOOD FERN
[*D. austriaca* var. *spinulosa* (Mull.)
Fiori; *D. spinulosa* (Mull.) Watt]



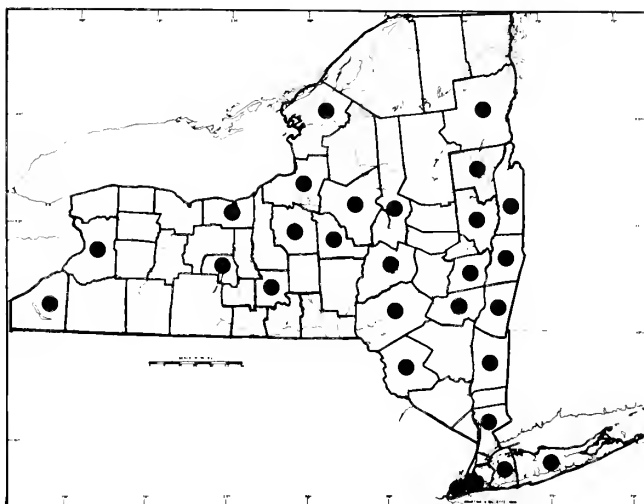
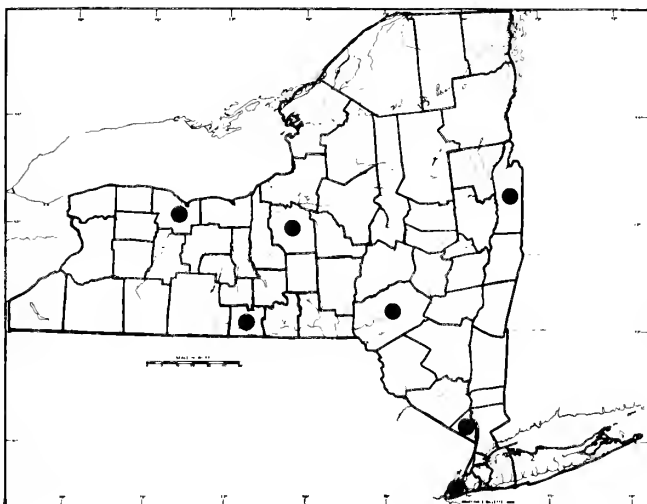
Dryopteris carthusiana x *celsa*

SPINULOSE LOG FERN (RARE)
(*D. celsa* x *spinulosa*)



Dryopteris carthusiana x *clintoniana*
= *D. x benedictii* (Farw.) Wherry

BENEDICT'S WOOD FERN (RARE)
(*D. clintoniana* x *spinulosa*)

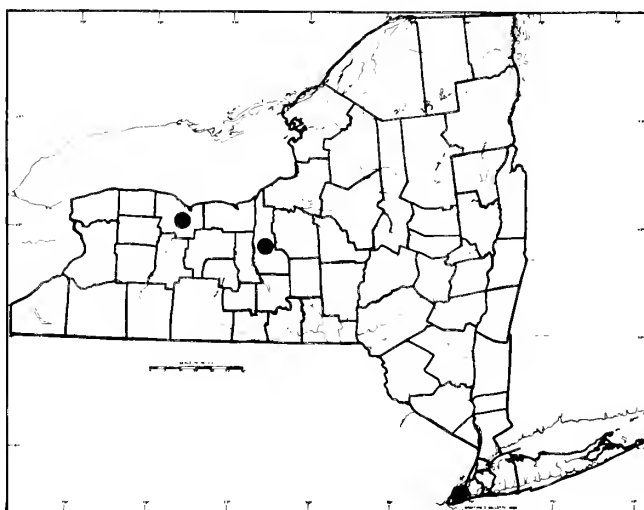
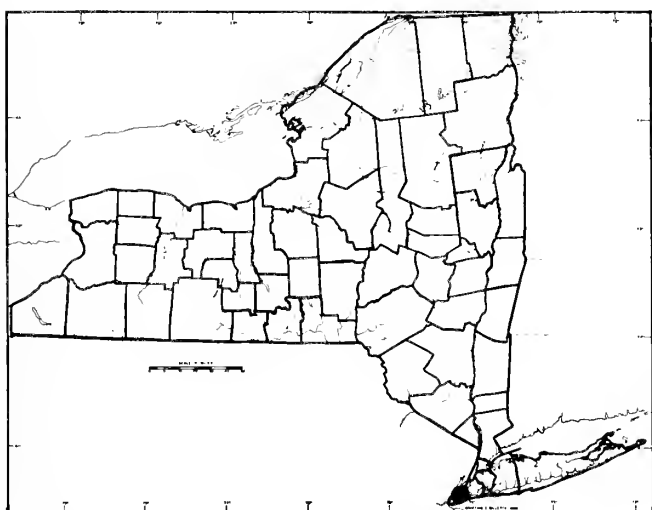


Dryopteris carthusiana x *cristata*
= *D. x uliginosa* (A. Br. ex Dowell) Druce

Dryopteris carthusiana x *intermedia*
= *D. x triploidea* Wherry

SPINULOSE CRESTED WOOD FERN
(RARE)
(*D. cristata* x *spinulosa*)

WOOD FERN
[*D. austriaca* var. *fructuosa* (Gilb.)
Mort.; *D. intermedia* x *spinulosa*]

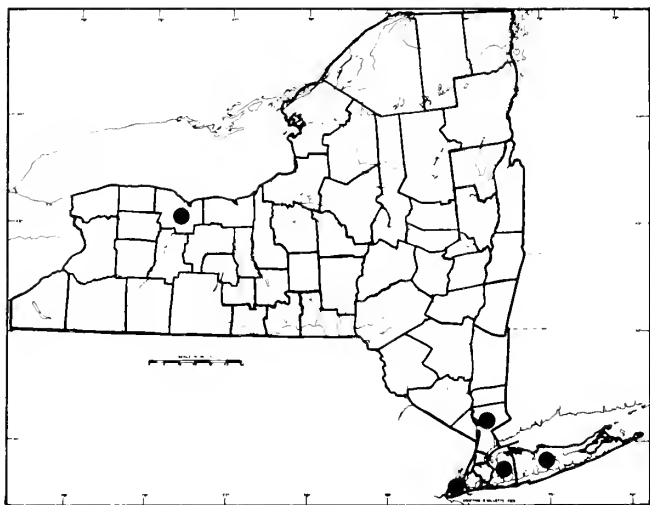


Dryopteris carthusiana x *marginalis*
= *D. x pittsfordensis* Slossen

Dryopteris celsa (Palmer) Knowlt.
et al. ex Small

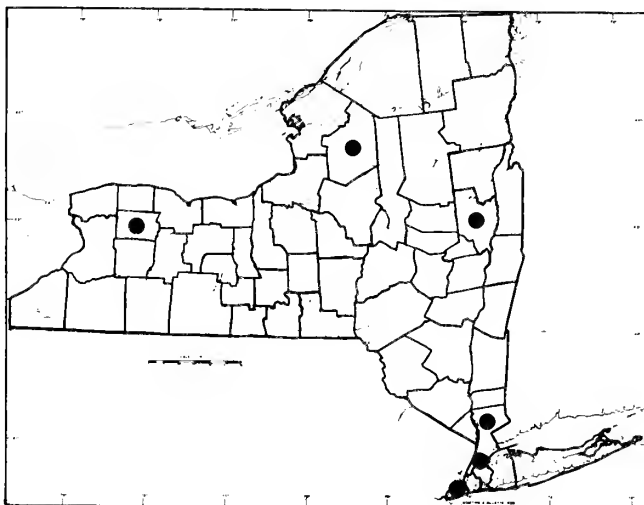
WOOD FERN (RARE)
(*D. marginalis* x *spinulosa*)

LOG FERN (RARE: T-3)



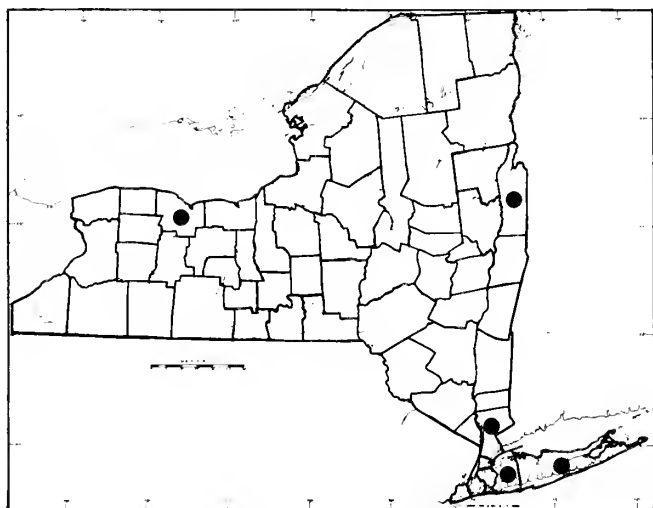
Dryopteris celsa x cristata

CRESTED LOG FERN (RARE)



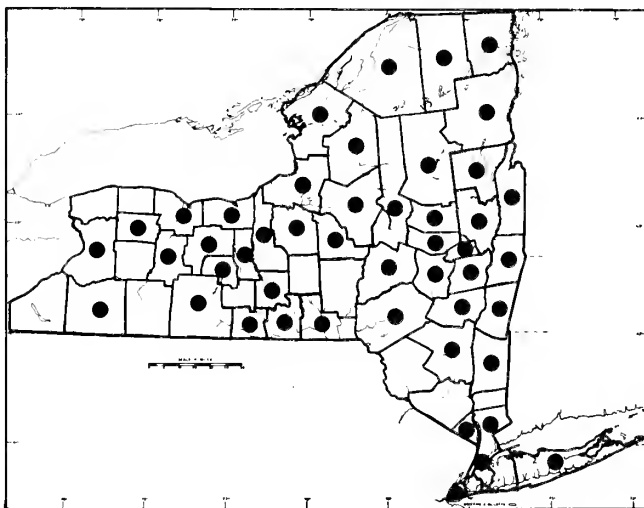
Dryopteris celsa x goldiana

LOG FERN (RARE)



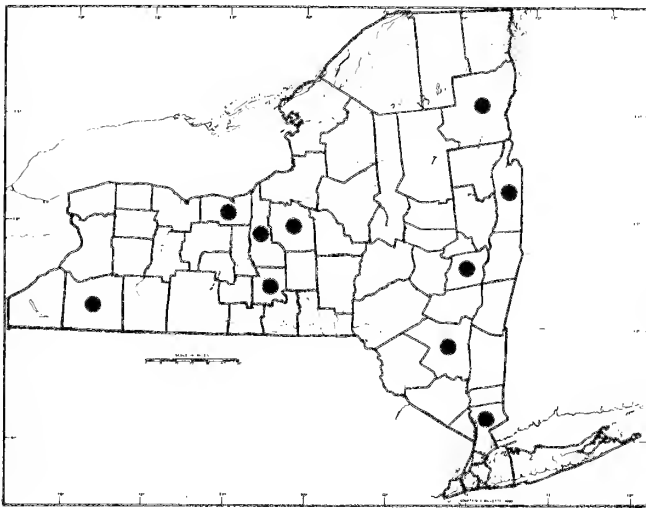
Dryopteris celsa x intermedia

GLANDULAR LOG FERN (RARE)



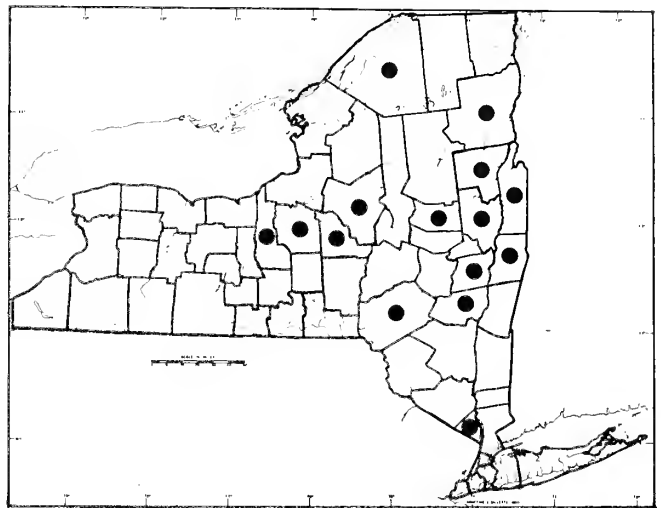
Dryopteris clintoniana (D. Eat.
ex A. Gray) Dowell

CLINTON'S SHIELD FERN
[*D. cristata* var. *clintoniana*
(D. Eat.) Underw.]



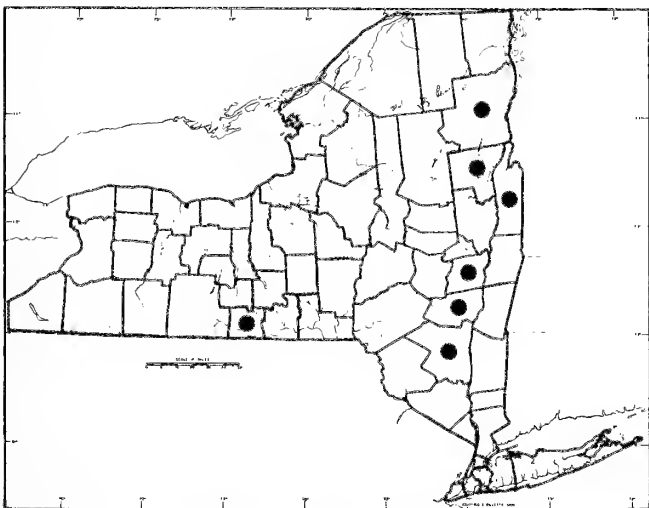
Dryopteris clintoniana x *goldiana*

WOOD FERN (RARE)



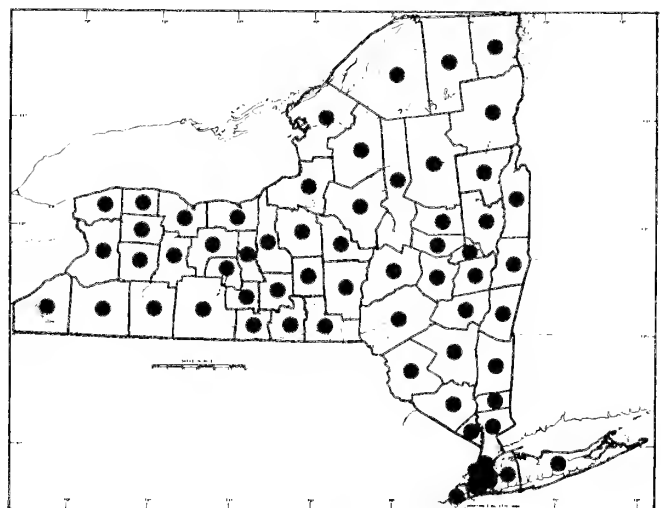
Dryopteris clintoniana x *intermedia*
= *D. x dowellii* (Farw.) Wherry

DOWELL'S WOOD FERN



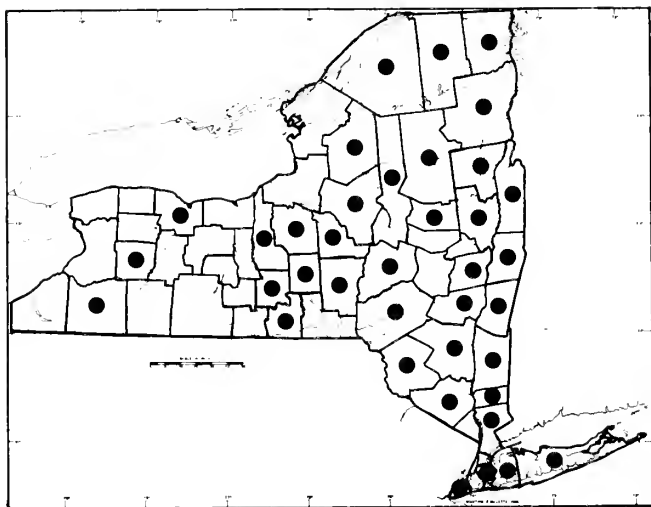
Dryopteris clintoniana x *marginalis*
= *D. x burgessii* Boiv.

BURGESS' SHIELD FERN (RARE)



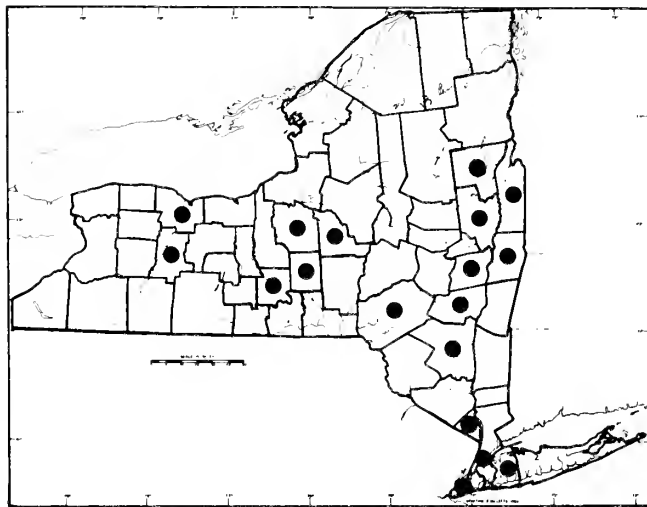
Dryopteris cristata (L.) A. Gray

CRESTED WOOD FERN



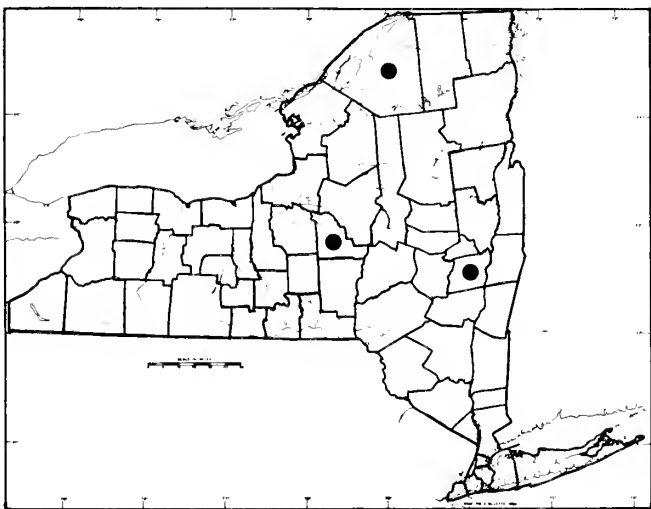
Dryopteris cristata x *intermedia*
= *D. x boottii* (Tuckerm.) Underw.

BOOTT'S WOOD FERN



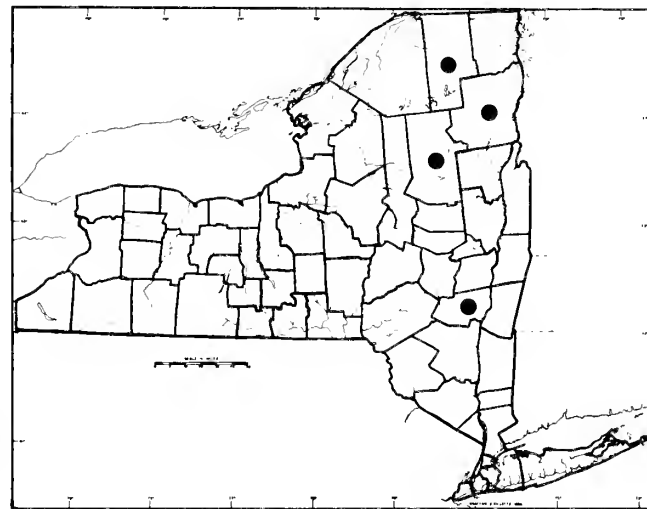
Dryopteris cristata x *marginalis*
= *D. x slossonae* (Hahne) Wherry

CRESTED MARGINAL FERN (RARE)



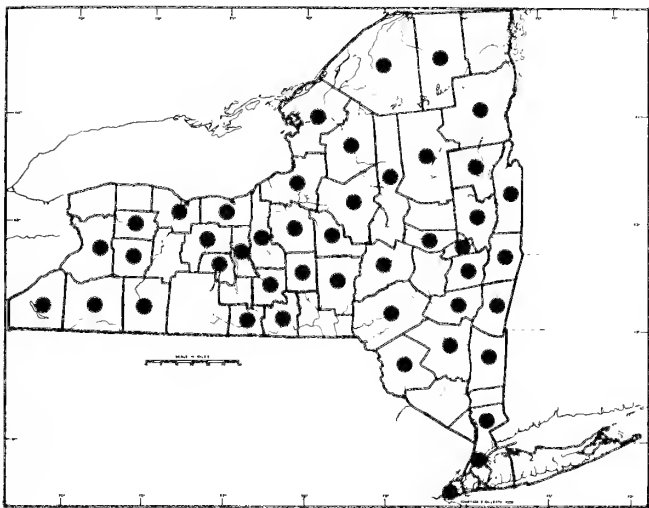
**Dryopteris filix-mas* x *marginalis*

MARGINAL MALE FERN
(RARE ESCAPE)

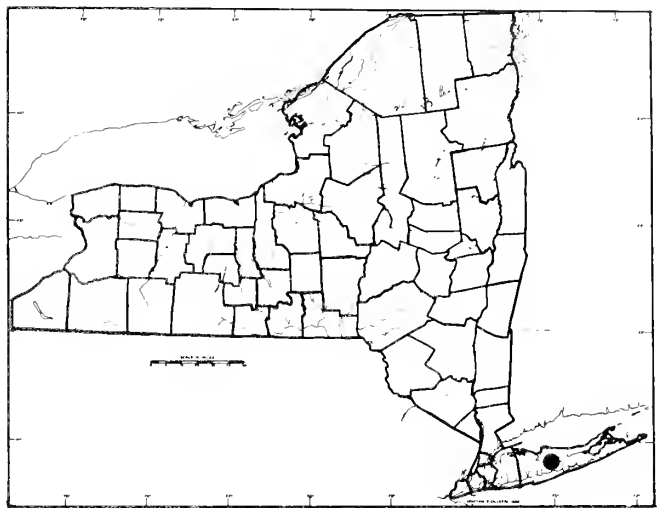


Dryopteris fragrans (L.) Schott

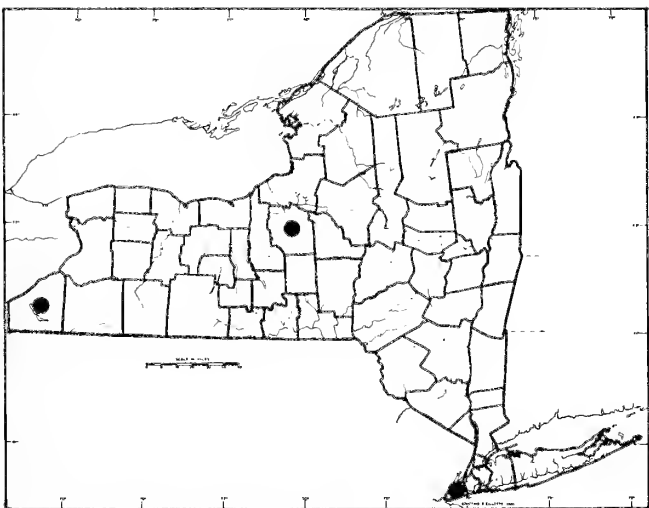
FRAGRANT CLIFF FERN (RARE)
(*D. fragrans* var. *remotiuscula* Komarov)



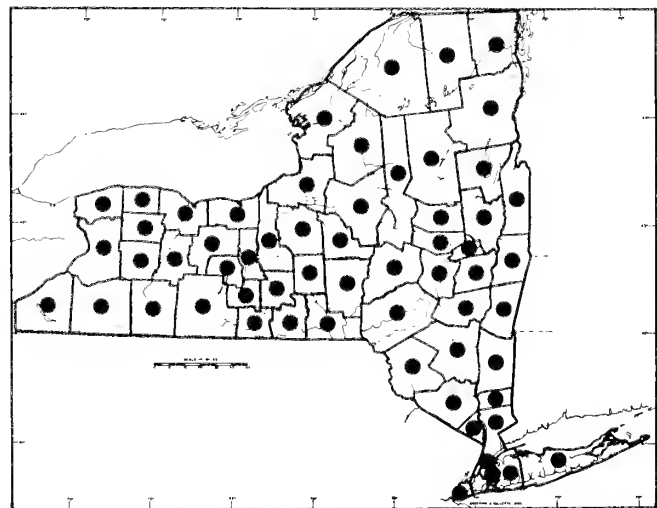
Dryopteris goldiana (Hook. ex Goldie)
A. Gray
GIANT WOOD FERN, GOLDIE'S FERN



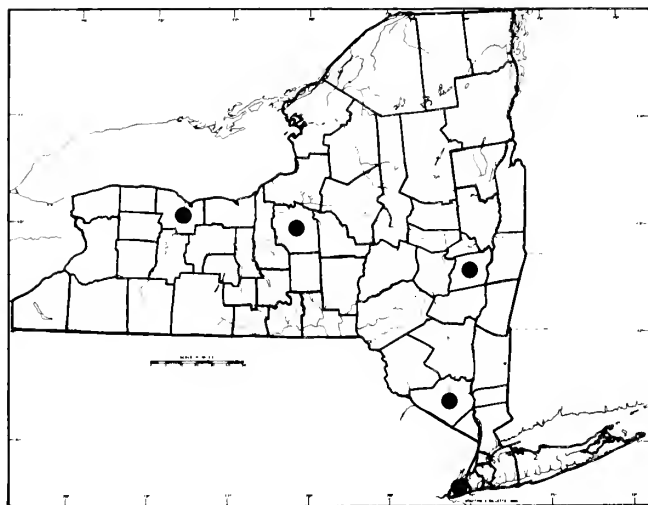
Dryopteris goldiana x *intermedia*
WOOD FERN (RARE)



Dryopteris goldiana x *marginalis*
= *D. x neowherryi* W. Wagner
WOOD FERN (RARE)

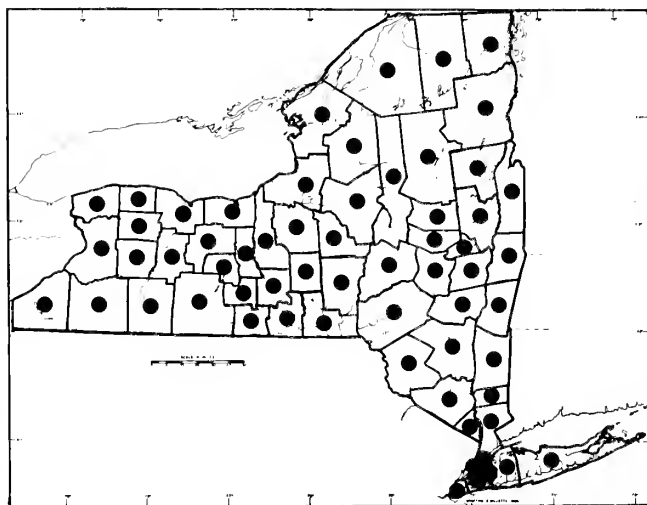


Dryopteris intermedia (Muhl. ex Willd.)
A. Gray
FANCY FERN, COMMON WOOD FERN
[*D. austriaca* var. *intermedia* (Muhl. ex Willd.) Morton; *D. spinulosa* var. *intermedia* (Muhl. ex Willd.) Underw.]



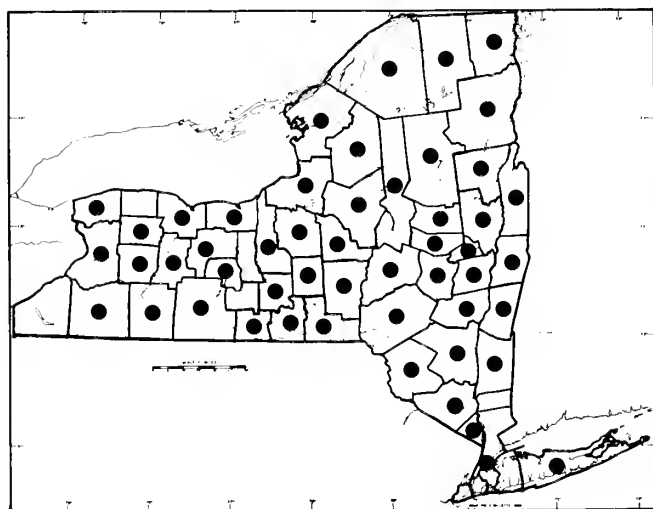
Dryopteris intermedia x *marginalis*

GLANDULAR MARGINAL FERN
(RARE)



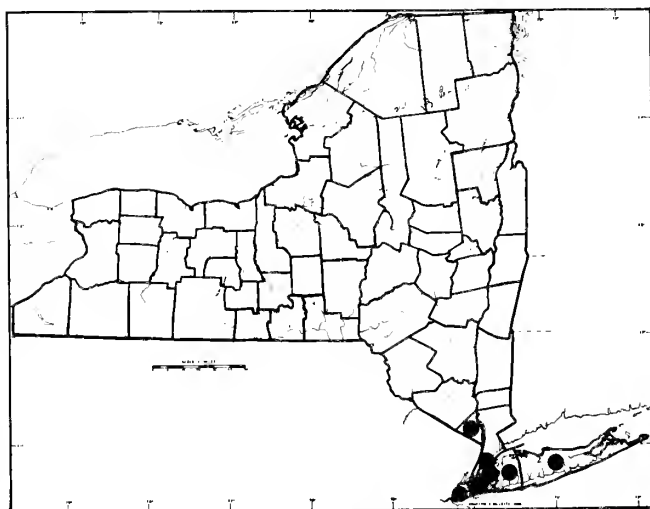
Dryopteris marginalis (L.) A. Gray

MARGINAL WOOD FERN



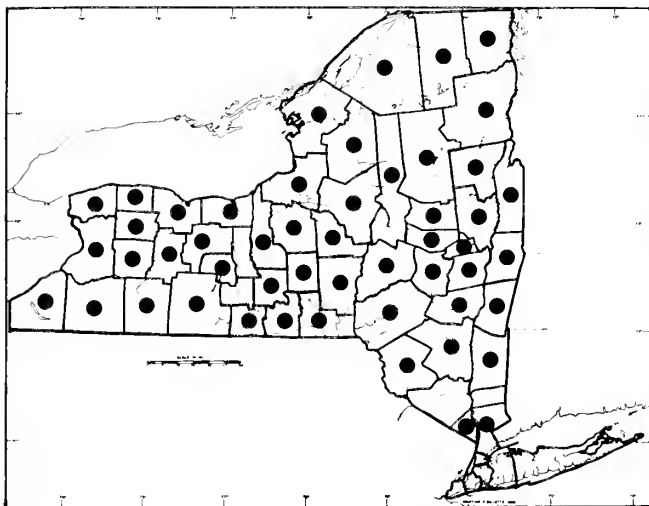
Gymnocarpium dryopteris (L.) Newm.

OAK FERN
[*Dryopteris disjuncta* (Ledeb.) Morton]



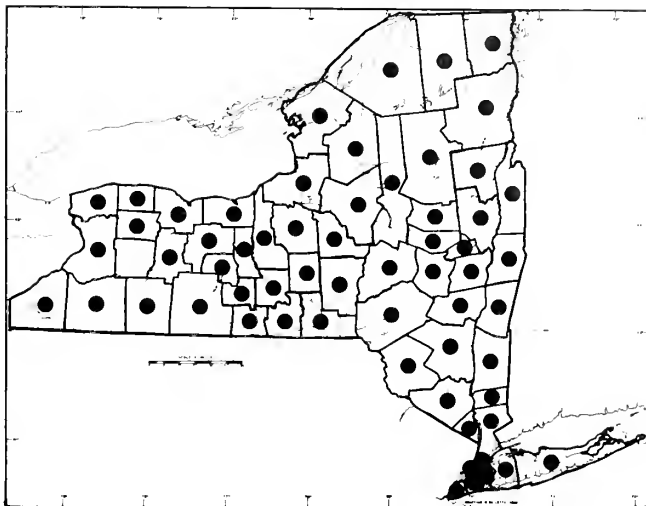
Lorinseria areolata (L.) Presl

NETTED OR NARROW-LEAVED
CHAIN FERN
[*Woodwardia areolata* (L.) Moore]



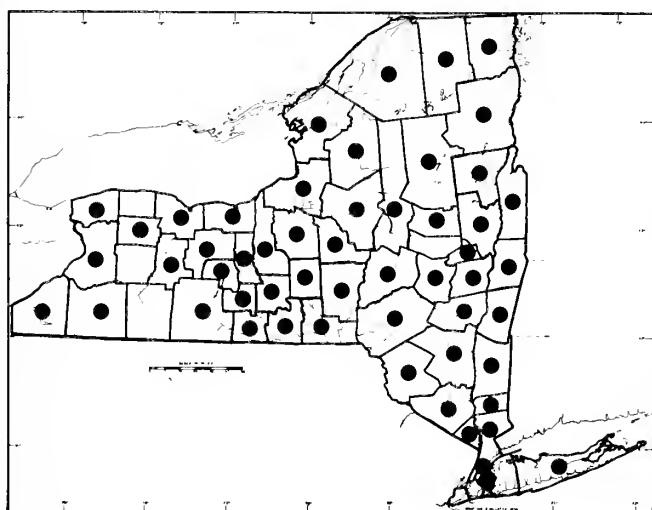
Matteuccia struthiopteris (L.) Todaro

OSTRICH FERN, FIDDLEHEADS
[*M. pensylvanica* (Willd.) Raym.;
Pteretis pensylvanica (Willd.) Fern.]



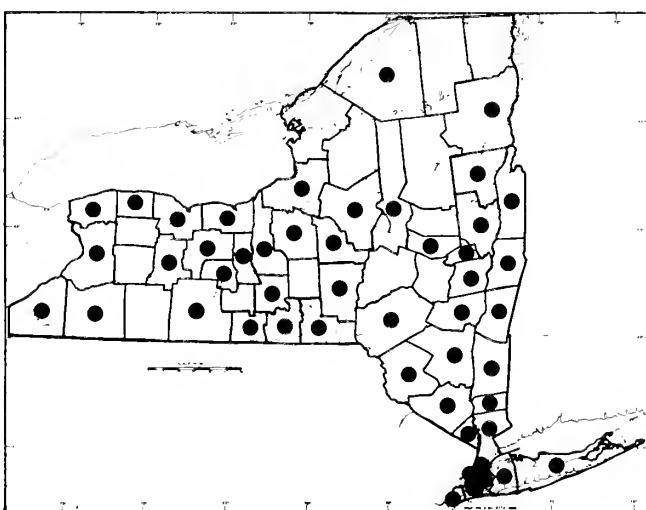
Onoclea sensibilis L.

SENSITIVE FERN



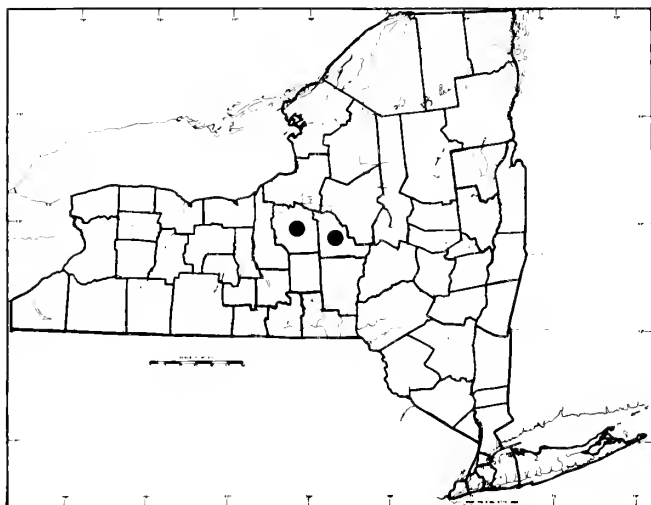
Phegopteris connectilis (Michx.) Watt

NORTHERN OR LONG BEECH FERN
[*Dryopteris phegopteris* (L.) Christ.;
Thelypteris phegopteris (L.) Slosson]



Phegopteris hexagonoptera (Michx.) Fée

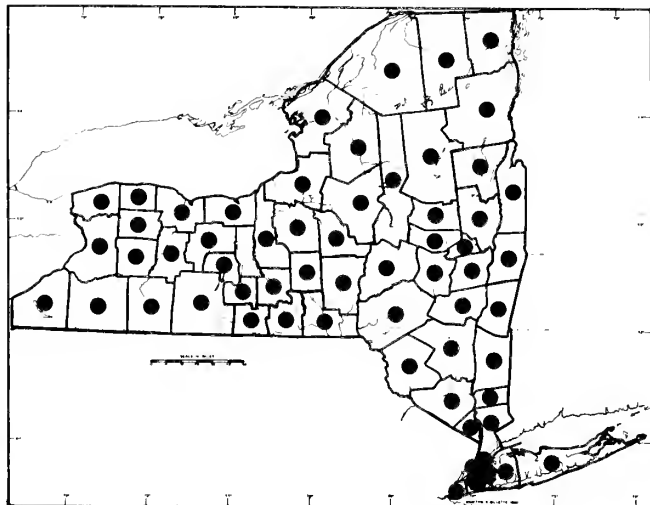
BROAD BEECH FERN
[*Dryopteris hexagonoptera* (Michx.) Christ.;
Thelypteris hexagonoptera (Michx.) Weath.]



Phyllitis scolopendrium (L.) Newm.

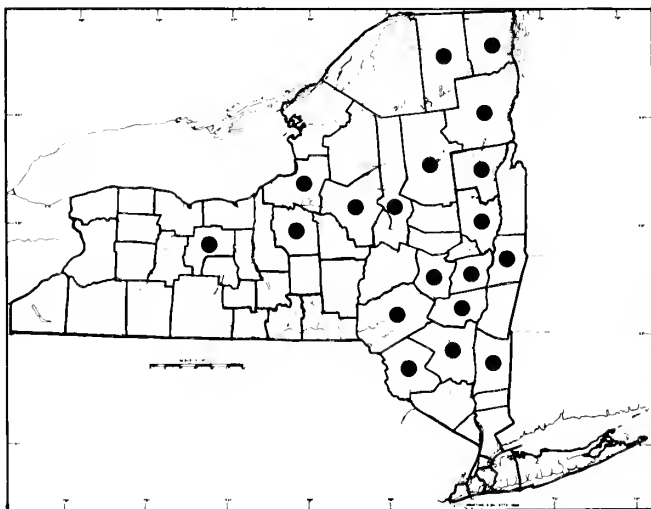
HART'S-TONGUE (RARE: E-1)
(*Asplenium scolopendrium* L.)

var. *americanum* Fern.



Polystichum acrostichoides (Michx.) Schott

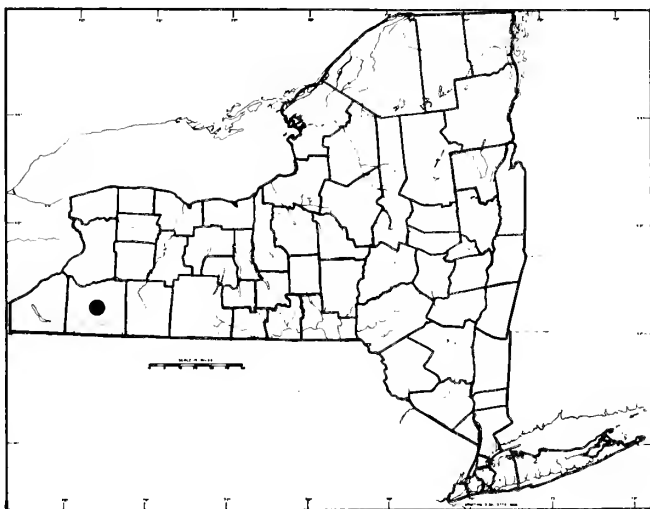
CHRISTMAS FERN, SHIELD FERN



Polystichum braunii (Spencer) Fée

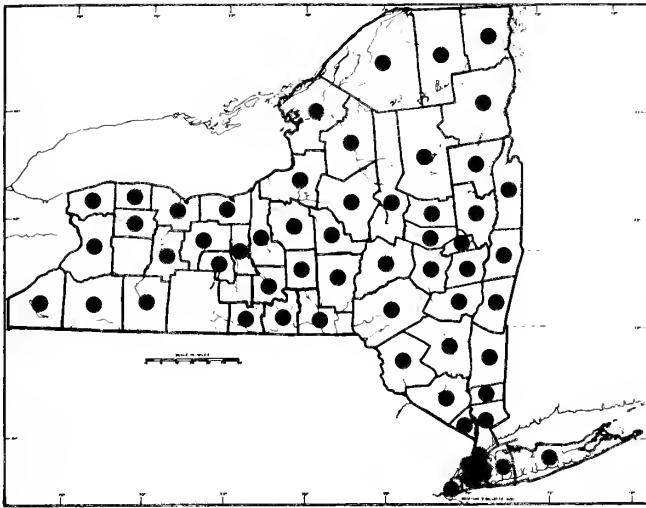
BRAUN'S HOLLY FERN

var. *purshii* Fern.
[*P. braunii* ssp. *purshii* (Fern.)
Calder & Taylor]



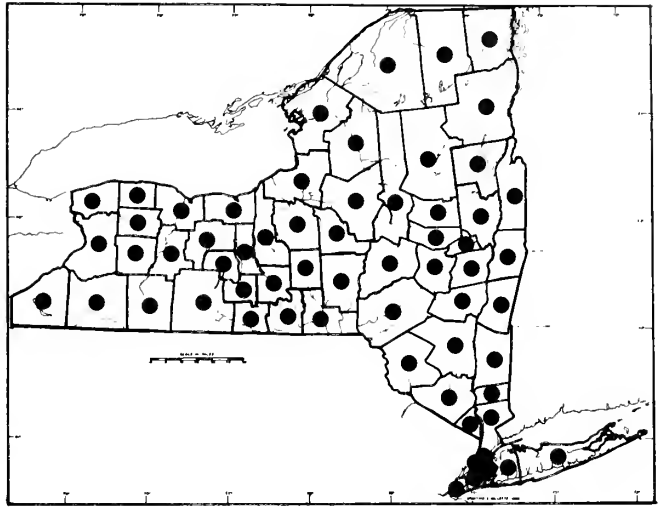
Polystichum lonchitis (L.) Roth

NORTHERN HOLLY FERN (RARE: E-3)



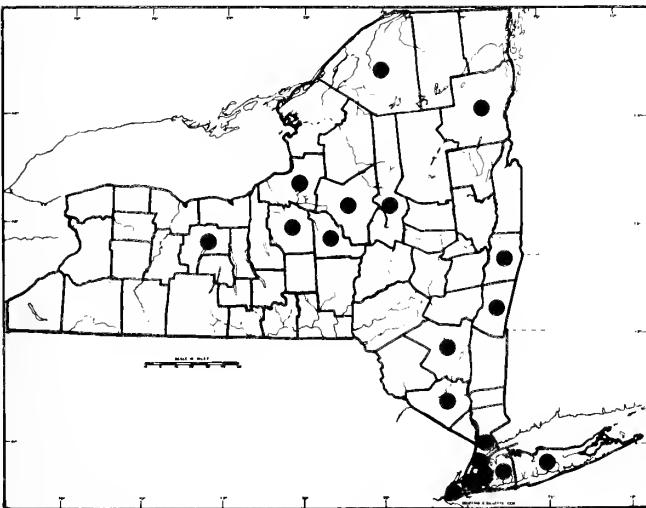
Thelypteris noveboracensis (L.) Nieuwl.

NEW YORK FERN
[*Dryopteris noveboracensis* (L.) A. Gray]



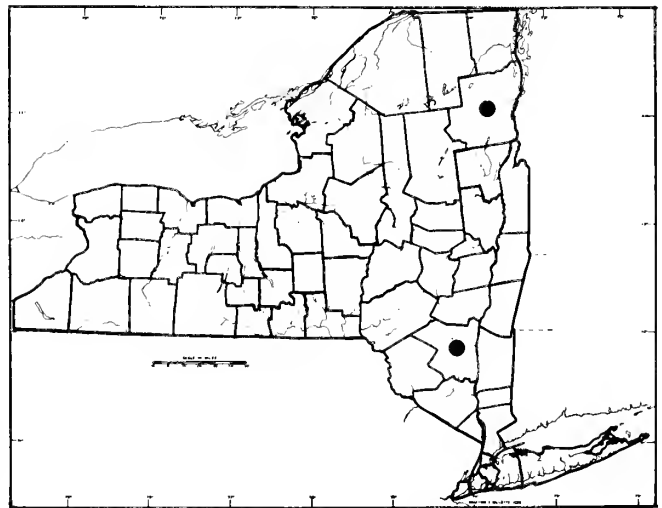
Thelypteris palustris Schott

MARSH FERN
[*Dryopteris thelypteris* (L.) Sw.]



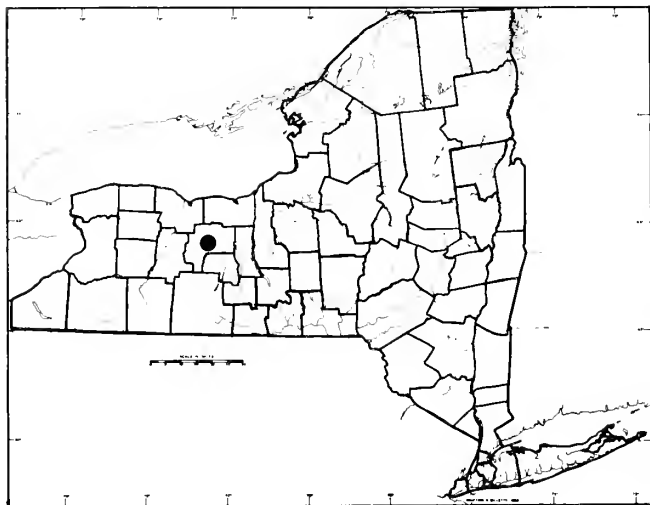
Thelypteris simulata (Davenp.) Nieuwl.

MASSACHUSETTS FERN
[*Aspidium simulatum* Davenp.; *Dryopteris simulata* Davenp., as a synonym only;
D. simulata sensu Underw.]



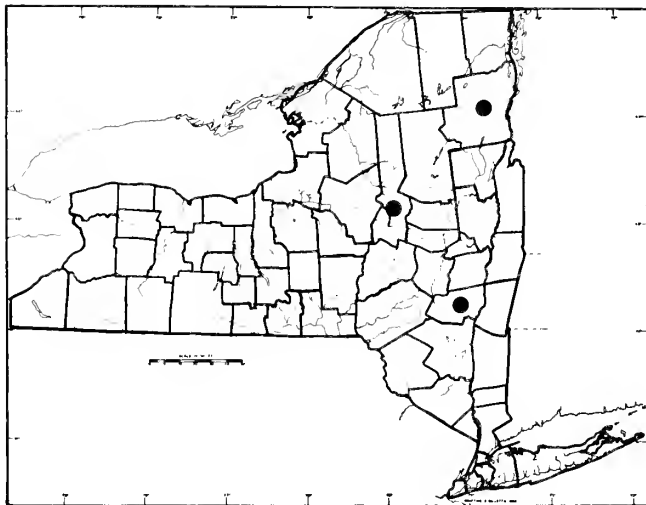
Woodsia alpina (Bolt.) S. Gray

ALPINE WOODSIA (RARE: T-3)



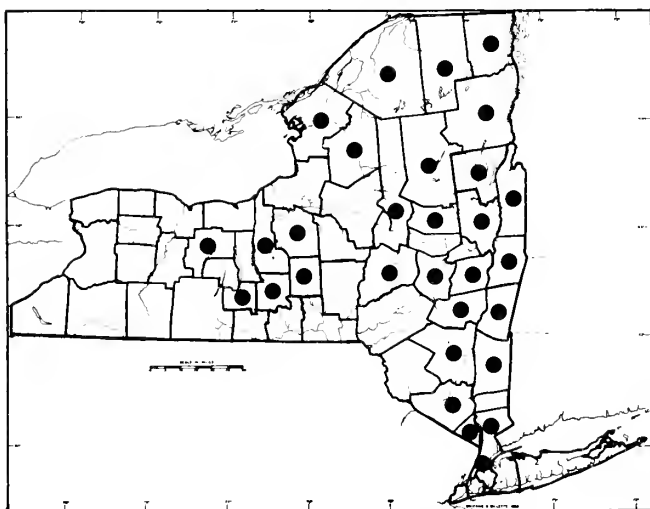
Woodsia cathcartiana Robinson

CATHCART'S WOODSIA (RARE: E-1)
[*W. oregana* var. *cathcartiana*
(Robinson) Morton]



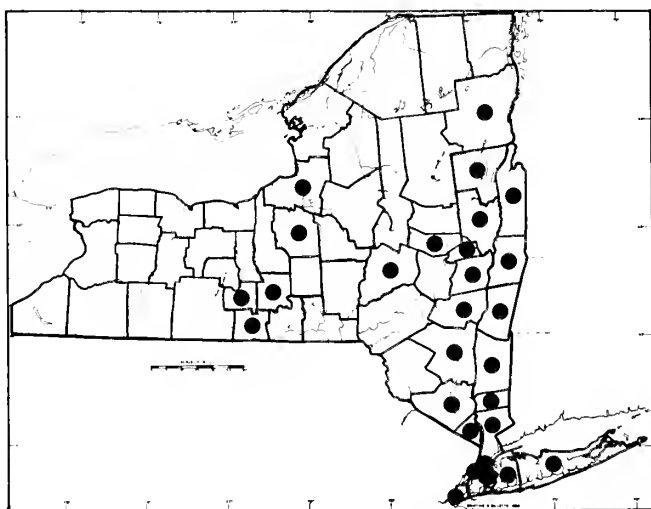
Woodsia glabella R. Br.

SMOOTH WOODSIA (RARE: T-3)



Woodsia ilvensis (L.) R. Br.

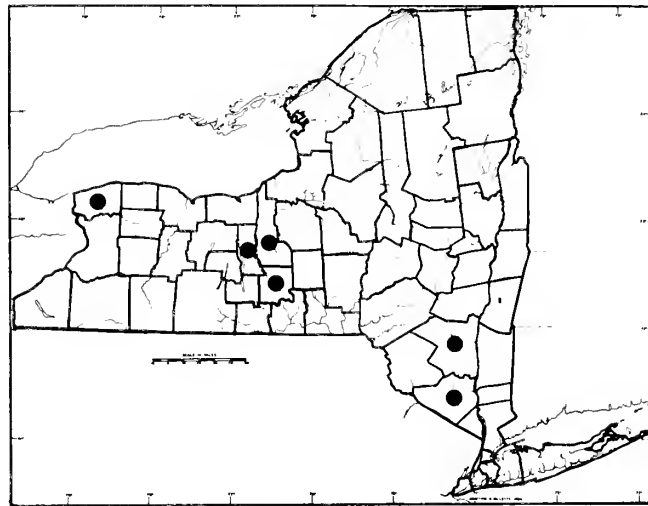
RUSTY WOODSIA



Woodsia obtusa (Spreng.) Torr.

BLUNT-LOBED WOODSIA

MARSILIACEAE (WATER-CLOVER FAMILY)

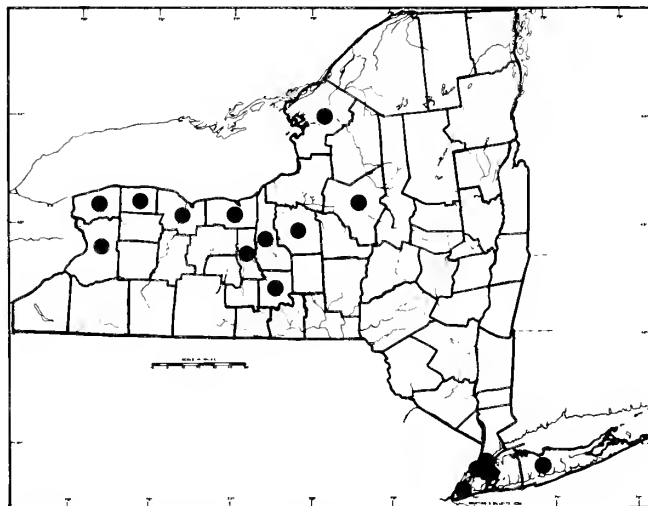


***Marsilia quadrifolia L.**

WATER-CLOVER, PEPPERWORT
(RARE ESCAPE)

(A. mexicana of authors, not
Schlect. & Cham.)

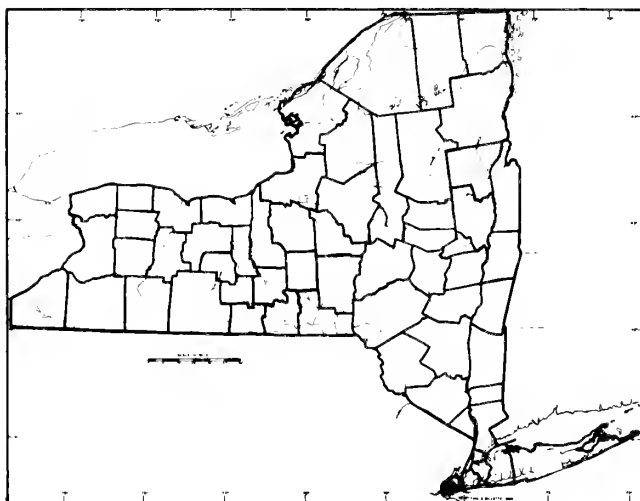
AZOLLACEAE (MOSQUITO-FERN FAMILY)



Azolla filiculoides Presl

WATER-FERN, MOSQUITO FERN
(A. caroliniana of old NY reports,
not Willd.)

SALVINIACEAE (WATER-FERN FAMILY)



+ **Salvinia minima* Baker

WATER-FERN (RARE INTROD.)
(*S. rotundifolia* of authors,
not Willd.)

+ **Salvinia natans* (L.) All.

WATER-FERN (INTROD. REPORT ONLY)

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